

## ARTICLE 2. WATER QUALITY STANDARDS FOR NON-WOTUS PROTECTED SURFACE WATERS

### R18-11-201. Definitions

The following terms apply to this Article:

1. “Acute toxicity” means toxicity involving a stimulus severe enough to induce a rapid response. In aquatic toxicity tests, an effect observed in 96 hours or less is considered acute.
2. “Agricultural irrigation AZ (AgI AZ)” means the use of a non-WOTUS protected surface water for crop irrigation.
3. “Agricultural livestock watering AZ (AgL AZ)” means the use of a non-WOTUS protected surface water as a water supply for consumption by livestock.
4. “Aquatic and wildlife AZ (cold water) (A&Wc AZ)” means the use of a non-WOTUS protected surface water by animals, plants, or other cold-water organisms, generally occurring at an elevation greater than 5000 feet, for habitation, growth, or propagation.
5. “Aquatic and wildlife AZ (warm water) (A&Ww AZ)” means the use of a non-WOTUS protected surface water by animals, plants, or other warm-water organisms, generally occurring at an elevation less than 5000 feet, for habitation, growth, or propagation.
6. “Criteria” means elements of water quality standards expressed as pollutant concentrations, levels, or narrative statements representing a water quality that supports a designated use.
7. “Critical flow conditions of the discharge” means the hydrologically based discharge flow averages that the director uses to calculate and implement applicable water quality criteria to a mixing zone’s receiving water as follows:
  - a. For acute aquatic water quality standard criteria, the discharge flow critical condition is represented by the maximum one-day average flow analyzed over a reasonably representative timeframe.
  - b. For chronic aquatic water quality standard criteria, the discharge flow critical flow condition is represented by the maximum monthly average flow analyzed over a reasonably representative timeframe.
  - c. For human health-based water quality standard criteria, the discharge flow critical condition is the long-term arithmetic mean flow, averaged over several years so as to simulate long-term exposure.
8. “Critical flow conditions of the receiving water” means the hydrologically based receiving water low flow averages that the director uses to calculate and implement applicable water quality criteria:
  - a. For acute aquatic water quality standard criteria, the receiving water critical condition is represented as the lowest one-day average flow event expected to occur once every ten years, on average (1Q10).
  - b. For chronic aquatic water quality standard criteria, the receiving water critical flow condition is represented as the lowest seven-consecutive-day average flow expected to occur once every 10 years, on average (7Q10), or
  - c. For human health-based water quality standard criteria, in order to simulate long-term exposure, the receiving water critical flow condition is the harmonic mean flow.
9. “Designated use” means a use specified on the Protected Surface Waters List for a non-WOTUS protected surface water.
10. “Domestic water source AZ (DWS AZ)” means the use of a non-WOTUS protected surface water as a source of potable water.
11. “Fish consumption AZ (FC AZ)” means the use of a non-WOTUS protected surface water by humans for harvesting aquatic organisms for consumption. Harvestable aquatic organisms include, but are not limited to, fish, clams, turtles, crayfish, and frogs.
12. “Full-body contact AZ (FBC AZ)” means the use of a non-WOTUS protected surface water for swimming or other recreational activity that causes the human body to come into direct contact with the water to the

point of complete submergence. The use is such that ingestion of the water is likely, and sensitive body organs, such as the eyes, ears, or nose, may be exposed to direct contact with the water.

13. “Geometric mean” means the nth root of the product of n items or values. The geometric mean is calculated using the following formula:

$$GM_Y = \sqrt[n]{(Y_1)(Y_2)(Y_3)\dots(Y_n)}$$

14. “Hardness” means the sum of the calcium and magnesium concentrations, expressed as calcium carbonate (CaCO<sub>3</sub>) in milligrams per liter.

15. “Non-WOTUS protected surface water” means a protected surface water that is not a WOTUS.

16. “Partial-body contact AZ (PBC AZ)” means the recreational use of a non-WOTUS protected surface water that may cause the human body to come into direct contact with the water, but normally not to the point of complete submergence (for example, wading or boating). The use is such that ingestion of the water is not likely and, sensitive body organs, such as the eyes, ears, or nose, will not normally be exposed to direct contact with the water.

17. “Pollutant” means fluids, contaminants, toxic wastes, toxic pollutants, dredged spoil, solid waste, substances and chemicals, pesticides, herbicides, fertilizers and other agricultural chemicals, incinerator residue, sewage, garbage, sewage sludge, munitions, petroleum products, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and mining, industrial, municipal, and agricultural wastes or any other liquid, solid, gaseous, or hazardous substance.

18. “Practical quantitation limit” means the lowest level of quantitative measurement that can be reliably achieved during a routine laboratory operation.

19. “Recharge Project” means a facility necessary or convenient to obtain, divert, withdraw, transport, exchange, deliver, treat, or store water to infiltrate or reintroduce that water into the ground.

20. “Toxic” means a pollutant or combination of pollutants, that after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism, either directly from the environment or indirectly by ingestion through food chains, may cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction), or physical deformations in the organism or its offspring.

21. “Urban lake” means a manmade lake within an urban landscape.

22. “Wetland” means, for the purposes of non-WOTUS protected surface waters, an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

23. “WOTUS” means waters of the state that are also navigable waters as defined by Section 502(7) of the Clean Water Act.

24. “WOTUS protected surface water” means a protected surface water that is a WOTUS.

#### **R18-11-202. Applicability**

A. The water quality standards prescribed in this Article apply to non-WOTUS protected surface waters.

B. The water quality standards prescribed in this Article do not apply to the following:

1. A waste treatment system, including an impoundment, pond, lagoon, or constructed wetland that is part of the waste treatment system;
2. A man-made surface impoundment and any associated ditch and conveyance used in the extraction, beneficiation, or processing of metallic ores including:
  - a. A pit,
  - b. Pregnant leach solution pond
  - c. Raffinate pond,
  - d. Tailing impoundment,
  - e. Decant pond,
  - f. Pond or a sump in a mine put associated with dewatering activity,

- g. Pond holding water that has come into contact with a process or product that is being held for recycling.
- h. Spill or catchment pond, or
- i. A pond used for onsite remediation
- 3. A man-made cooling pond that is neither created in a surface water nor results from the impoundment of a surface water; or
- 4. A surface water located on tribal lands.
- 5. WOTUS Protected Surface Waters

**R18-11-203. Designated Uses for Non-WOTUS Protected Surface Waters**

- A. The designated uses for specific non-WOTUS protected surface waters are listed in the Protected Surface Waters List in this article. The designated uses that may be assigned to a non-WOTUS protected surface water are:
  - 1. Full-body contact AZ.
  - 2. Partial-body contact AZ.
  - 3. Domestic water source AZ.
  - 4. Fish consumption AZ.
  - 5. Aquatic and wildlife AZ (cold water).
  - 6. Aquatic and wildlife AZ (warm water).
  - 7. Agricultural irrigation AZ, and
  - 8. Agricultural livestock watering AZ.
- B. Numeric water quality criteria to maintain and protect water quality for the designated uses assigned to non-WOTUS protected surface waters are prescribed in R18-11-213. Narrative water quality standards to protect non-WOTUS protected surface waters are prescribed in R18-11-212.
- C. If a non-WOTUS protected surface water has more than one designated use listed in the Protected Surface Waters List, the most stringent water quality criterion applies.
- D. The Director shall revise the designated uses of a non-WOTUS protected surface water if water quality improvements result in a level of water quality that permits a use that is not currently listed as a designated use in the Protected Surface Waters List.
- E. The Director may remove a designated use or adopt a subcategory of a designated use that requires less stringent water quality criteria through a rulemaking action for any of the following reasons:
  - 1. A naturally-occurring pollutant concentration prevents the attainment of the use;
  - 2. A human-caused condition or source of pollution prevents the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place;
  - 3. A dam, diversion, or other type of hydrologic modification precludes the attainment of the use, and it is not feasible to restore the non-WOTUS protected surface water to its original condition or to operate the modification in a way that would result in attainment of the use;
  - 4. A physical condition related to the natural features of the surface water, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, precludes attainment of an aquatic life designated use.

**R18-11-204. Interim, Presumptive Designated Uses**

- A. The following water quality standards apply to a non-WOTUS protected surface water that is not listed on the Protected Surface Waters List but is added on an emergency basis pursuant to A.R.S. § 49-221(G)(7):
  - 1. The aquatic and wildlife AZ (cold water use applies to a non-WOTUS protected surface water above 5000 feet in elevation;
  - 2. The aquatic and wildlife AZ (warm water) applies to a non-WOTUS protected surface water below 5000 feet in elevation;
  - 3. The full-body contact AZ use applies to a non-WOTUS protected surface water if the Director makes a determination that the non-WOTUS protected surface water is used by humans for swimming or other recreational activity that causes the human body to come into direct contact with the water to the point of

complete submergence. The use is such that ingestion of the water is likely and sensitive body organs, such as the eyes, ears, or nose, may be exposed to direct contact with the water.

4. The partial-body contact AZ use applies to a non-WOTUS protected surface water if the Director makes a determination that the non-WOTUS protected surface water is used by humans in a way that may cause the human body to come into direct contact with the water, but normally not to the point of complete submergence (for example, wading or boating). The use is such that ingestion of the water is not likely and sensitive body organs, such as the eyes, ears, or nose, will not normally be exposed to direct contact with the water.
5. The fish consumption AZ use applies to a non-WOTUS protected surface water if the Director makes a determination that the non-WOTUS protected surface water is used by humans for harvesting aquatic organisms for consumption. Harvestable aquatic organisms include, but are not limited to, fish, clams, turtles, crayfish, and frogs.
6. The domestic water source AZ use applies to a non-WOTUS protected surface water if the Director makes a determination that the non-WOTUS protected surface water is used by humans as a source of potable water.
7. The agricultural irrigation AZ use applies to a non-WOTUS protected surface water if the Director makes a determination that the non-WOTUS protected surface water is used for crop irrigation.
8. The agricultural livestock watering AZ use applies to any non-WOTUS protected surface water if the Director makes a determination that the non-WOTUS protected surface water is used as a water supply for consumption by livestock.

#### **R18-11-205. Analytical Methods**

- A. A person conducting an analysis of a sample taken to determine compliance with a water quality standard shall use an analytical method prescribed in A.A.C. R9-14-610 or an alternative method approved under A.A.C. R9-14-610(C).
- B. A test result from a sample taken to determine compliance with a water quality standard is valid only if the sample is analyzed by a laboratory that is licensed by the Arizona Department of Health Services, an out-of-state laboratory licensed under A.R.S. § 36-495.14, or a laboratory exempted under A.R.S. § 36-495.02, for the analysis performed.

#### **R18-11-206. Mixing Zones**

- A. The Director may establish a mixing zone for a point source discharge to a non-WOTUS protected surface water as a condition of an individual AZPDES permit on a pollutant-by-pollutant basis. A mixing zone is prohibited where there is no water for dilution, or as prohibited pursuant to subsection (H).
- B. The owner or operator of a point source seeking the establishment of a mixing zone shall submit a request to the Director for a mixing zone as part of an application for an AZPDES permit. The request shall include:
  1. An identification of the pollutant for which the mixing zone is requested;
  2. A proposed outfall design;
  3. A definition of the boundary of the proposed mixing zone. For purposes of this subsection, the boundary of a mixing zone is where complete mixing occurs; and
  4. A complete and detailed description of the existing physical, biological, and chemical conditions of the receiving water and the predicted impact of the proposed mixing zone on those conditions. The description shall also address the factors listed in subsection (D) that the Director must consider when deciding to grant or deny a request and shall address the mixing zone requirements in subsection (H).
- C. The Director shall consider the following factors when deciding whether to grant or deny a request for a mixing zone:
  1. The assimilative capacity of the receiving water;
  2. The likelihood of adverse human health effects;
  3. The location of drinking water plant intakes and public swimming areas;
  4. The predicted exposure of biota and the likelihood that resident biota will be adversely affected;
  5. Bioaccumulation;

6. Whether there will be acute toxicity in the mixing zone, and, if so, the size of the zone of initial dilution;
7. The known or predicted safe exposure levels for the pollutant for which the mixing zone is requested;
8. The size of the mixing zone;
9. The location of the mixing zone relative to biologically sensitive areas in the surface water;
10. The concentration gradient of the pollutant within the mixing zone;
11. Sediment deposition;
12. The potential for attracting aquatic life to the mixing zone; and
13. The cumulative impacts of other mixing zones and other discharges to the surface water.

D. Director determination.

1. The Director shall deny a request to establish a mixing zone if an applicable water quality standard will be violated outside the boundaries of the proposed mixing zone.
2. If the Director approves the request to establish a mixing zone, the Director shall establish the mixing zone as a condition of an AZPDES permit. The Director shall include any mixing zone condition in the AZPDES permit that is necessary to protect human health and the designated uses of the surface water.

E. Any person who is adversely affected by the Director's decision to grant or deny a request for a mixing zone may appeal the decision under A.R.S. § 49-321 et seq. and A.R.S. § 41-1092 et seq.

F. The Director shall reevaluate a mixing zone upon issuance, reissuance, or modification of the AZPDES permit for the point source or a modification of the outfall structure.

G. Mixing zone requirements.

1. A mixing zone shall be as small as practicable in that it shall not extend beyond the point in the waterbody at which complete mixing occurs under the critical flow conditions of the discharge and of the receiving water.
2. The total horizontal area allocated to all mixing zones on a lake shall not exceed 10 percent of the surface area of the lake.
3. Adjacent mixing zones in a lake shall not overlap or be located closer together than the greatest horizontal dimension of the largest mixing zone.
4. The design of any discharge outfall shall maximize initial dilution of the wastewater in a surface water.
5. The size of the zone of initial dilution in a mixing zone shall prevent lethality to organisms passing through the zone of initial dilution. The mixing zone shall prevent acute toxicity and lethality to organisms passing through the mixing zone.

H. The Director shall not establish a mixing zone in an AZPDES permit for the following persistent, bioaccumulative pollutants:

1. Chlordane,
2. DDT and its metabolites (DDD and DDE),
3. Dieldrin,
4. Dioxin,
5. Endrin,
6. Endrin aldehyde,
7. Heptachlor,
8. Heptachlor epoxide,
9. Lindane,
10. Mercury,
11. Polychlorinated biphenyls (PCBs), and
12. Toxaphene.

**R18-11-207. Natural background**

Where the concentration of a pollutant exceeds a water quality standard and the exceedance is caused solely by naturally-occurring conditions, the exceedance shall not be considered a violation of the water quality standard.

**R18-11-208. Schedules of Compliance**

A compliance schedule in an AZPDES permit shall require the permittee to comply with a discharge limitation based upon a new or revised water quality standard as soon as possible to achieve compliance. The permittee shall demonstrate that the point source cannot comply with a discharge limitation based upon the new or revised water quality standard through the application of existing water pollution control technology, operational changes, or source reduction. In establishing a compliance schedule, the Director shall consider:

1. How much time the permittee has already had to meet any effluent limitations under a prior permit;
2. The extent to which the permittee has made good faith efforts to comply with the effluent limitations and other requirements in a prior permit;
3. Whether treatment facilities, operations, or measures must be modified to meet the effluent limitations;
4. How long any necessary modifications would take to implement; and
5. Whether the permittee would be expected to use the same treatment facilities, operations or other measures to meet the effluent limitations as it would have used to meet the effluent limitations in a prior permit.

**R18-11-209. Enforcement of Non-permitted Discharges to Non-WOTUS Protected Surface Waters**

- A. The Department may establish a numeric water quality standard at a concentration that is below the practical quantitation limit. Therefore, in enforcement actions pursuant to subsection (B), the water quality standard is enforceable at the practical quantitation limit.
- B. Except for chronic aquatic and wildlife criteria, for non-permitted discharge violations, the Department shall determine compliance with numeric water quality standard criteria from the analytical result of a single sample, unless additional samples are required under this article. For chronic aquatic and wildlife criteria, compliance for non-permitted discharge violations shall be determined from the geometric mean of the analytical results of the last four samples taken at least 24 hours apart. For the purposes of this Section, a “non-permitted discharge violation” does not include a discharge regulated under an AZPDES permit.

**R18-11-210. Statements of Intent and Limitations on the Reach of Article 2**

- A. Nothing in this Article prohibits fisheries management activities by the Arizona Game and Fish Department or the U.S. Fish and Wildlife Service. This Article does not exempt fish hatcheries from AZPDES permit requirements.
- B. Nothing in this Article prevents the routine physical or mechanical maintenance of canals, drains, and the urban lakes identified on the Protected Surface Waters List. Physical or mechanical maintenance includes dewatering, lining, dredging, and the physical, biological, or chemical control of weeds and algae. Increases in turbidity that result from physical or mechanical maintenance activities are permitted in canals, drains, and the urban lakes identified on the Protected Surface Waters List.
- C. Increases in turbidity that result from the routine physical or mechanical maintenance of a dam or flood control structure are not violations of this Article.
- D. Nothing in this Article requires the release of water from a dam or a flood control structure.

**R18-11-211. Procedures for Determining Economic, Social, and Environmental Cost and Benefits.**

- A. The Director shall perform an economic, social, and environmental cost and benefits analysis that shows the benefits outweigh the costs before conducting any of the following rulemaking actions:
  1. Adopting a water quality standard that applies to non-WOTUS protected surface waters at a particular level or for a particular water category of non-WOTUS protected surface waters;
  2. Adding a non-WOTUS protected surface water to the Protected Surface Waters List when the conditions of A.R.S. § 49-221(G)(4) apply; or
  3. Removing a non-WOTUS protected surface water from the Protected Surface Waters List when the conditions of A.R.S. § 49-221(G)(6) apply.
- B. The economic, social, and environmental cost and benefit analysis must include:
  1. A justification of the valuation methodology used to quantify the costs or benefits of the rulemaking action;

2. A reference to any study relevant to the economic, social, and environmental cost and benefit analysis that the agency reviewed and proposes either to rely on or not to rely on in its evaluation of the costs and benefits of the rulemaking action;
  3. A description of any data on which an economic, social, and environmental cost and benefits analysis is based and an explanation of how the data was obtained and why the data is acceptable data.
  4. A description of the probable impact of the rulemaking on any existing AZPDES permits that are impacted by the rulemaking action;
  5. A description of the probable amount of additional AZPDES permits that will be required for known and ongoing point-source discharges after the rulemaking is completed that otherwise would not have been required if the Director did not undertake the rulemaking action; and
  6. The administrative and other costs to ADEQ associated with the proposed rulemaking.
- C. The Director shall publish a copy of the economic, social, and environmental cost and benefits analysis to the agency website prior to filing any rulemaking materials during any of the rulemaking actions listed in subsection A of this rule.
- D. If for any reason enough data is not reasonably available to comply with the requirements of subsection B of this section, the agency shall explain the limitations of the data and the methods that were employed in the attempt to obtain the data and shall characterize the probable impacts in qualitative terms.
- E. The Director is not required to prepare the economic, social, and environmental cost and benefits analysis required by this rule when:
1. Adding or removing a WOTUS-protected surface water from the Protected Surface Waters List; or
  2. Adding a water to the Protected Surface Waters List on an emergency basis pursuant to A.R.S. § 49-221(G)(7).

**R18-11-212. Narrative Water Quality Standards for Non-WOTUS Protected Surface Waters**

- A. A non-WOTUS protected surface water shall not contain pollutants in amounts or combinations that:
1. Settle to form bottom deposits that inhibit or prohibit the habitation, growth, or propagation of aquatic life;
  2. Cause objectionable odor in the area in which the non-WOTUS protected surface water is located;
  3. Cause off-taste or odor in drinking water;
  4. Cause off-flavor in aquatic organisms;
  5. Are toxic to humans, animals, plants, or other organisms;
  6. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic life or that impair recreational uses;
  7. Cause or contribute to a violation of an aquifer water quality standard prescribed in R18-11-405 or R18-11-406; or
  8. Change the color of the non-WOTUS protected surface water from natural background levels of color.
- B. A non-WOTUS protected surface water shall not contain oil, grease, or any other pollutant that floats as debris, foam, or scum; or that causes a film or iridescent appearance on the surface of the water; or that causes a deposit on a shoreline, bank, or aquatic vegetation. The discharge of lubricating oil or gasoline associated with the normal operation of a recreational watercraft is not a violation of this narrative standard
- C. A non-WOTUS protected surface water shall not contain a discharge of suspended solids in quantities or concentrations that interfere with the treatment processes at the nearest downstream potable water treatment plant or substantially increase the cost of handling solids produced at the nearest downstream potable water treatment plant.

**R18-11-213. Numeric Water Quality Standards for Non-WOTUS Protected Surface Waters**

- A. *E. coli* bacteria. The following water quality standards for *Escherichia coli* (*E. coli*) are expressed in colony-forming units per 100 milliliters of water (cfu / 100 ml) or as a Most Probable Number (MPN):

<i>E. coli</i>	FBC AZ	PBC AZ
Geometric mean (minimum of four samples in 30 days)	126	126

Statistical threshold value	410	576
-----------------------------	-----	-----

B. pH. The following water quality standards for non-WOTUS protected surface waters pH are expressed in standard units:

<b>pH</b>	<b>DWS AZ</b>	<b>FBC AZ, PBC AZ, A&amp;Ww AZ, A&amp;Wc AZ</b>	<b>AgIAZ</b>	<b>AgLAZ</b>
<u>Maximum</u>	<u>9.0</u>	<u>9.0</u>	<u>9.0</u>	<u>9.0</u>
<u>Minimum</u>	<u>5.0</u>	<u>6.5</u>	<u>4.5</u>	<u>6.5</u>

C. The maximum allowable increase in ambient water temperature, due to a thermal discharge is as follows:

<b>A&amp;Ww AZ</b>	<b>A&amp;Wc AZ</b>
<u>3.0° C</u>	<u>1.0° C</u>

D. Suspended sediment concentration.

- The following water quality standards for suspended sediment concentration, expressed in milligrams per liter (mg/L), are expressed as a median value determined from a minimum of four samples collected at least seven days apart:
- The Director shall not use the results of a suspended sediment concentration sample collected during or within 48 hours after a local storm event to determine the median value.

<b>A&amp;Wc AZ</b>	<b>A&amp;Ww AZ</b>
<u>25</u>	<u>80</u>

E. Dissolved oxygen. A non-WOTUS protected surface water meets the water quality standard for dissolved oxygen when either:

- The percent saturation of dissolved oxygen is equal to or greater than 90 percent, or
- The single sample minimum concentration for the designated use, as expressed in milligrams per liter (mg/L) is as follows:

<b>Designated Use</b>	<b>Single sample minimum concentration in mg/L</b>
<u>A&amp;Ww AZ</u>	<u>6.0</u>
<u>A&amp;Wc AZ</u>	<u>7.0</u>

The single sample minimum concentration is the same for the designated use in a lake, but the sample must be taken from a depth no greater than one meter.

F. The tables in this subsection prescribe water quality criteria for individual pollutants by designated use:

**Table 1. Water Quality Criteria by Designated Use (see footnote)**

Parameter	CAS NUMBER	DWS AZ (µg/L)	FC AZ (µg/L)	FRC AZ (µg/L)	PBC AZ (µg/L)	A&Wc AZ Acute (µg/L)	A&Wc AZ Chronic (µg/L)	A&Ww AZ Acute (µg/L)	A&Ww AZ Chronic (µg/L)	Agl AZ (µg/L)	Agl AZ (µg/L)
Acenaphthene	83329	420	198	56.000	56.000	850	550	850	550		
Acrolein	107028	3.5	1.9	467	467	3	3	3	3		
Acrylonitrile	107131	0.06	0.2	3	37.333	3.800	250	3.800	250		
Alachlor	15972608	2		9.333	9.333	2.500	170	2.500	170		
Aldrin	309002	0.002	0.00005	0.08	28	3		3		0.003	See (b)
Alpha Particles (Gross) Radioactivity		15 pCi/L See (h)									
Ammonia	7664417					See (e) & Tables 11 (present) & 14 (absent)	See (e) & Tables 13 (present) & 17 (absent)	See (e) & Tables 12 (present) & 15 (absent)	See (e) & Tables 13 (present) & 16 (absent)		
Anthracene	120127	2.100	74	280.000	280.000						
Antimony	7440360	6 T	640 T	747 T	747 T	88 D	30 D	88 D	30 D		
Arsenic	7440382	10 T	80 T	30 T	280 T	340 D	150 D	340 D	150 D	2.000 T	200 T
Asbestos	1332214	See (a)									
Atrazine	1912249	3		32.667	32.667						
Barium	7440393	2.000 T		98.000	98.000						
Benz(a)anthracene	56553	0.005	0.02	0.2	0.2						
Benzene	71432	5	140	93	3.733	2.700	180	2.700	180		
Benzo(b)fluoranthene	205992	0.005	0.02	1.9	1.9						
Benzo(a)fluoranthene	205992	0.005	0.02	1.9	1.9						
Benzidine	92875	0.0002	0.0002	0.01	2.800	1.300	89	1.300	89	0.01	0.01
Benzo(a)pyrene	50328	0.2	0.02	0.2	0.2						
Benzo(k)fluoranthene	207089	0.005	0.02	1.9	1.9						
Beryllium	7440417	4 T	84 T	1.867 T	1.867 T	65 D	5.3 D	65 D	5.3 D		
Beta particles and photon emitters		4 millirems /year See (i)									
Bis(2-chloromethyl) ether	111444	0.03	0.5	1	1	120.000	6.700	120.000	6.700		
Bis(2-chloroisopropyl) ether	108601	280	3.441	37.333	37.333						
Boron	7440428	1.400 T		186.667 T	186.667 T					1.000 T	
Bromodichloromethane	75274	TIHM See (g)	17	TIHM	18.667						
4-Bromophenyl phenyl ether	101553					180	14	180	14		
Bromoform	75252	TIHM See (g)	133	180	18.667	15.000	10.000	15.000	10.000		
Bromomethane	74839	9.8	299	1.307	1.307	5.500	360	5.500	360		
Butyl benzyl phthalate	85687	1.400	386	186.667	186.667	1.700	130	1.700	130		
Cadmium	7440439	5 T	84 T	700 T	700 T	See Table 2	See Table 3	See Table 2	See Table 3	50	50
Carbaryl	63252					2.1	2.1	2.1	2.1		
Carbofuran	1563662	40		4.667	4.667	650	50	650	50		
Carbon tetrachloride	56235	5	2	11	980	18.000	1.100	18.000	1.100		
Chlordane	57749	2	0.0008	4	467	2.4	0.004	2.4	0.2		
Chlorine (total residual)	7782505	4.000		4000	4000	19	11	19	11		
Chlorobenzene	108907	100	1.553	18.667	18.667	3.800	260	3.800	260		
2-Chloroethyl vinyl ether	110758					180.000	9.800	180.000	9.800		
Chloroform	67663	TIHM See (g)	470	230	9.333	14.000	900	14.000	900		
p-Chloro-m-cresol	59507					15	4.7	15	4.7		
Chloromethane	74873					270.000	15.000	270.000	15.000		
beta-Chloronaphthalene	91587	560	317	74.667	74.667						
2-Chlorophenol	95578	35	30	4.667	4.667	2.200	150	2.200	150		
Chloropyrifos	2921882	21		2.800	2.800	0.08	0.04	0.08	0.04		
Chromium III	16065831		75.000 T	1.400.00 T	1.400.00 T	See (d) & Table 4					
Chromium VI	18540299	21 T	150 T	2.800 T	2.800 T	16 D	11 D	16 D	11 D		
Chromium (Total)	7440473	100 T								1.000	1.000
Chrysene	218019	0.005	0.02	19	19						
Copper	7440508	1.300 T		1.300 T	1.300 T	See (d) & Table 5	5.000 T	500 T			
Cyanide (as free cyanide)	57125	200 T	16.000 T	18.667 T	18.667 T	22 T	5.2 T	41 T	9.7 T		200 T

Dalapon	75990	200	8.000	28.000	28.000							
DDT and its breakdown products	50293	0.1	0.0003	14	467	1.1	0.001	1.1	0.001	0.001	0.001	0.001
Demeton	8065483						0.1		0.1			
Diazinon	333415					0.17	0.17	0.17	0.17			
Dibenz (ah) anthracene	53703	0.005	0.02	1.9	1.9							
Dibromochloromethane	124481	ITHM Sea (g)	13	ITHM	18.667							
1,2-Dibromo-3-chloropropane	96128	0.2		2.800	2.800							
1,2-Dibromoethane	106934	0.05		8.400	8.400							
Dibutyl phthalate	84742	700	899	93.333	93.333	470	35	470	35			
1,2-Dichlorobenzene	95501	600	205	84.000	84.000	790	300	1.200	470			
1,3-Dichlorobenzene	541731					2.500	970	2.500	970			
1,4-Dichlorobenzene	106467	75	5755	373.333	373.333	560	210	2.000	780			
3,3'-Dichlorobenzidine	91941	0.08	0.03	3	3							
1,2-Dichloroethane	107062	5	37	15	186.667	59.000	41.000	59.000	41.000			
1,1-Dichloroethylene	75354	7	7.143	46.667	46.667	15.000	950	15.000	950			
1,2-cis-Dichloroethylene	156592	70		70	70							
1,2-trans-Dichloroethylene	156605	100	10.127	18.667	18.667	68.000	3.900	68.000	3.900			
Dichloromethane	75092	5	593	190	56.000	97.000	5.500	97.000	5.500			
2,4-Dichlorophenol	120832	21	59	2.800	2.800	1.000	88	1.000	88			
2,4-Dichlorophenoxyacetic acid (2,4-D)	94757	70		9.333	9.333							
1,2-Dichloropropane	78875	5	17.518	84.000	84.000	26.000	9.200	26.000	9.200			
1,3-Dichloropropene	542756	0.7	42	420	28.000	3.000	1.100	3.000	1.100			
Dieldrin	60571	0.002	0.00005	0.09	47	0.2	0.06	0.2	0.06	0.003	See (b)	
Diethyl phthalate	84662	5.600	8.767	746.667	746.667	26.000	1.600	26.000	1.600			
Di (2-ethylhexyl) adipate	103231	400		560.000	560.000							
Di (2-ethylhexyl) phthalate	117817	6	3	100	18.667	400	360	400	360			
2,4-Dimethylphenol	105679	140	171	18.667	18.667	1.000	310	1.000	310			
Dimethyl phthalate	131113					17.000	1.000	17.000	1.000			
4,6-Dinitro-o-cresol	534521	28	582	3.733	3.733	310	24	310	24			
2,4-Dinitrophenol	51285	14	1.067	1.867	1.867	110	9.2	110	9.2			
2,4-Dinitrotoluene	121142	14	421	1.867	1.867	14.000	860	14.000	860			
2,6-Dinitrotoluene	606202	0.05		2	3.733							
Di-n-octyl phthalate	117840	2.800		373.333	373.333							
Dinoseb	88887	7		933	933							
1,2-Diphenylhydrazine	122667	0.04	0.2	1.8	1.8	130	11	130	11			
Diquat	85007	20		2.053	2.053							
Endosulfan sulfate	1031078	42	18	5.600	5.600	0.2	0.06	0.2	0.06			
Endosulfan (Total)	115297	42	18	5.600	5.600	0.2	0.06	0.2	0.06			
Endothal	145733	100		18.667	18.667							
Endrin	72208	2	0.06	280	280	0.09	0.04	0.09	0.04	0.004	0.004	
Endrin aldehyde	7421934	2				0.09	0.04	0.09	0.04			
Ethylbenzene	100414	700	2.133	93.333	93.333	23.000	1.400	23.000	1.400			
Fluoranthene	206440	280	28	37.333	37.333	2.000	1.600	2.000	1.600			
Fluorene	86737	280	1.067	37.333	37.333							
Fluoride	7782414	4.000		140.000	140.000							
Glyphosate	1071836	700	266.667	93.333	93.333							
Guthion	86500						0.01		0.01			
Heptachlor	76448	0.4	0.00008	0.4	467	0.5	0.004	0.5	0.004			
Heptachlor epoxide	1024573	0.2	0.00004	0.2	12	0.5	0.004	0.5	0.004			
Hexachlorobenzene	118741	1	0.0003	1	747	6	3.7	6	3.7			
Hexachlorobutadiene	87683	0.4	18	18	187	45	8.2	45	8.2			
Hexachlorocyclohexane alpha	319846	0.006	0.005	0.22	7.467	1.600	130	1.600	130			
Hexachlorocyclohexane beta	319857	0.02	0.02	0.78	560	1.600	130	1.600	130			
Hexachlorocyclohexane delta	319868					1.600	130	1.600	130			
Hexachlorocyclohexane gamma (lindane)	58899	0.2	1.8	280	280	1	0.08	1	0.28			
Hexachlorocyclopentadiene	77474	50	580	9.800	9.800	3.5	0.3	3.5	0.3			
Hexachloroethane	67721	2.5	3.3	100	933	490	350	490	350			
Hydrogen sulfide	7783064						2 See ©		2 See ©			
Indeno (1,2,3-cd) pyrene	193395	0.05	0.49	1.9	1.9							

Iron	7439896						1,000 D		1,000 D		
Isophorone	78591	37	961	1,500	186,667	59,000	43,000	59,000	43,000		
Lead	7439921	15 T		15 T	15 T	See (d) & Table 6	10,000 T	100 T			
Malathion	121755	140		18,667	18,667		0.1		0.1		
Manganese	7439965	980		130,667	130,667					10,000	
Mercury	7439976	2 T		280 T	280 T	2.4 D	0.01 D	2.4 D	0.01 D		10 T
Methoxychlor	72435	40		4,667	4,667		0.03		0.03		
Methylmercury	22967926		0.3 mg/kg								
Mirex	2385855	1		187	187		0.001		0.001		
Naphthalene	91203	140	1,524	18,667	18,667	1,100	210	3,200	580		
Nickel	7440020	140 T	4,600 T	28,000 T	28,000 T	See (d) & Table 7					
Nitrate	14797558	10,000		3,733.33	3,733.33						
Nitrite	14797650	1,000		233.333	233.333						
Nitrate + Nitrite		10,000									
Nitrobenzene	98953	3.5	138	467	467	1,300	850	1,300	850		
p-Nitrophenol	100027					4,100	3,000	4,100	3,000		
N-nitrosodimethylamine	62759	0.001	3	0.03	0.03						
N-Nitrosodiphenylamine	86306	7.1	6	290	290	2,900	200	2,900	200		
N-nitrosodi-n-propylamine	621647	0.005	0.5	0.2	88,667						
Nonylphenol	104405					28	6.6	28	6.6		
Oxamyl	23135220	200		23,333	23,333						
Parathion	56382					0.07	0.01	0.07	0.01		
Paraquat	1910425	32		4,200	4,200	100	54	100	54		
Pentachlorophenol	87865	1	1,000	12	28,000	See (i) & Table 10					
Permethrin	52645531	350		46,667	46,667	0.3	0.2	0.3	0.2		
Phenanthrene	85018					30	6.3	30	6.3		
Phenol	108952	2,100	37	280,000	280,000	5,100	730	7,000	1,000		
Picloram	1918021	500	2,710	65,333	65,333						
Polychlorinatedbiphenyls (PCBs)	1336363	0.5	0.00006	2.19	19	2	0.01	2	0.02	0.001	0.001
Pyrene	129000	210	800	28,000	28,000						
Radium 226 + Radium 228		5 pCi/L									
Selenium	7782492	50 T	667 T	4,667 T	4,667 T		2 T		2 T	20 T	50 T
Silver	7440224	35 T	8,000 T	4,667 T	4,667 T	See (d) & Table 8		See (d) & Table 8			
Simazine	112349	4		4,667	4,667						
Strontium	7440246	8 pCi/L									
Styrene	100425	100		186,667	186,667	5,600	370	5,600	370		
Sulfides											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746016	0.00003	5x10 <sup>-9</sup>	0.00003	0.0009	0.01	0.005	0.01	0.005		
1,1,2,2-Tetrachloroethane	79345	0.2	4	7	56,000	4,700	3,200	4,700	3,200		
Tetrachloroethylene	127184	5	261	9,333	9,333	2,600	280	6,500	680		
Thallium	7440280	2 T	7.2 T	75 T	75 T	700 D	150 D	700 D	150 D		
Toluene	108883	1,000	201,000	280,000	280,000	8,700	180	8,700	180		
Toxaphene	8001352	3	0.0003	1.3	933	0.7	0.0002	0.7	0.0002	0.005	0.005
Tributyltin	688733					0.5	0.07	0.5	0.07		
1,2,4-Trichlorobenzene	120821	70	70	9,333	9,333	750	130	1,700	300		
1,1,1-Trichloroethane	71556	200	428,571	1,866.66	1,866.66	2,600	1,600	2,600	1,600	1,000	
1,1,2-Trichloroethane	79005	5	16	25	3,733	18,000	12,000	18,000	12,000		
Trichloroethylene	79016	5	29	280,000	280	20,000	1,300	20,000	1,300		
2,4,6-Trichlorophenol	88062	3.2	2	130	130	160	25	160	25		
2,4,5-Trichlorophenoxy propionic acid (2,4,5-TP)	93721	50		7,467	7,467						
Trihalomethanes (T)		80									
Tritium	10028178	20,000 pCi/L									
Uranium	7440611	30 D		2,800	2,800						
Vinyl chloride	75014	2	5	2	2,800						

Xylenes (T)	1330207	10,000		186,667	186,667						
Zinc	7440666	2,100 T	5,106 T	280,000 T	280,000 T	See (d) & Table 9	10,000 T	25,000 T			

**Footnotes**

- a. The asbestos standard is 7 million fibers (longer than 10 micrometers) per liter.
- b. The aldrin/dieldrin standard is exceeded when the sum of the two compounds exceeds 0.003 µg/L.
- c. In lakes, the acute criteria for hydrogen sulfide apply only to water samples taken from the epilimnion, or the upper layer of a lake or reservoir.
- d. Hardness, expressed as mg/L CaCO<sub>3</sub>, is determined according to the following criteria:
  - i. If the receiving water body has an A&Wc or A&Ww designated use, then hardness is based on the hardness of the receiving water body from a sample taken at the same time that the sample for the metal is taken, except that the hardness may not exceed 400 mg/L CaCO<sub>3</sub>.
  - ii. The mathematical equations for the hardness-dependent parameter represent the water quality standards. Examples of criteria for the hardness-dependent parameters have been calculated and are presented in separate tables in this rule for the convenience of the user.
- e. pH is determined according to the following criteria:
  - i. If the receiving water has an A&Wc or A&Ww designated use, then pH is based on the pH of the receiving water body from a sample taken at the same time that the sample for pentachlorophenol or ammonia is taken.
  - ii. The mathematical equations for ammonia represent the water quality standards. Examples of criteria for ammonia have been calculated and are presented in separate tables in this rule for the convenience of the user.
- f. Table 1 abbreviations.
  - i. µg/L = micrograms per liter.
  - ii. mg/kg = milligrams per kilogram.
  - iii. pCi/L = picocuries per liter.
  - iv. D = dissolved.
  - v. T = total recoverable.
  - vi. TTHM indicates that the chemical is a trihalomethane.
- g. The total trihalomethane (TTHM) standard is exceeded when the sum of these four compounds exceeds 80 µg/L, as a rolling annual average.
- h. The concentration of gross alpha particle activity includes radium-226, but excludes radon and uranium.
- i. The average annual concentration of beta particle activity and photon emitters from manmade radionuclides shall not produce an annual dose equivalent to the total body or any internal organ greater than four millirems per year.
- j. The mathematical equations for the pH-dependent parameters represent the water quality standards. Examples of criteria for the pH-dependent parameters have been calculated and are presented in separate tables in this rule for the convenience of the user.
- k. Abbreviations for the mathematical equations are as follows:
  - e = the base of the natural logarithm and is a mathematical constant equal to 2.71828
  - LN = is the natural logarithm
  - CMC = Criterion Maximum Concentration (acute)
  - CCC = Criterion Continuous Concentration (chronic)

**Table 2. Acute Water Quality Standards for Dissolved Cadmium**

<u>Aquatic and Wildlife Coldwater AZ</u>		<u>Aquatic and Wildlife Warm Water AZ</u>	
<u>Hard. mg/L</u>	<u>Std. µg/L</u>	<u>Hard. mg/L</u>	<u>Std. µg/L</u>
<u>20</u>	<u>0.40</u>	<u>20</u>	<u>2.1</u>
<u>100</u>	<u>1.8</u>	<u>100</u>	<u>9.4</u>
<u>400</u>	<u>6.5</u>	<u>400</u>	<u>34</u>
<u><math>e^{(0.9789 \cdot \text{LN}(\text{Hardness}) - 3.866)} \cdot (1.136672 - \text{LN}(\text{Hardness})) \cdot 0.041838</math></u>		<u><math>e^{(0.9789 \cdot \text{LN}(\text{Hardness}) - 2.208)} \cdot (1.136672 - \text{LN}(\text{Hardness})) \cdot 0.041838</math></u>	

**Table 3. Chronic Water Quality Standards for Dissolved Cadmium**

<u>Aquatic and Wildlife Coldwater AZ and Warmwater AZ</u>	
<u>Hard. mg/L</u>	<u>Std. µg/L</u>

<u>20</u>	<u>0.21</u>
<u>100</u>	<u>0.72</u>
<u>400</u>	<u>2.0</u>
$e^{(0.7977*LN(Hardness)-3.909)*(1.101672-LN(Hardness)*0.041838)}$	

**Table 4. Water Quality Standards for Dissolved Chromium III**

<b>Acute Aquatic and Wildlife Coldwater AZ and Warmwater AZ</b>		<b>Chronic Aquatic and Wildlife Coldwater AZ and Warmwater AZ</b>	
<b>Hard. mg/L</b>	<b>Std. µg/L</b>	<b>Hard. mg/L</b>	<b>Std. µg/L</b>
<u>20</u>	<u>152</u>	<u>20</u>	<u>19.8</u>
<u>100</u>	<u>570</u>	<u>100</u>	<u>74.1</u>
<u>400</u>	<u>1.773</u>	<u>400</u>	<u>231</u>
$e^{(0.819*LN(Hardness)+3.7256)*(0.316)}$		$e^{(0.819*LN(Hardness)+0.6848)*(0.86)}$	

**Table 5. Water Quality Standards for Dissolved Copper**

<b>Acute Aquatic and Wildlife Coldwater AZ and Warmwater AZ</b>		<b>Chronic Aquatic and Wildlife Coldwater AZ and Warmwater AZ</b>	
<b>Hard. mg/L</b>	<b>Std. µg/L</b>	<b>Hard. mg/L</b>	<b>Std. µg/L</b>
<u>20</u>	<u>2.9</u>	<u>20</u>	<u>2.3</u>
<u>100</u>	<u>13</u>	<u>100</u>	<u>9.0</u>
<u>400</u>	<u>50</u>	<u>400</u>	<u>29</u>
$e^{(0.9422*LN(Hardness)-1.702)*(0.96)}$		$e^{(0.8545*LN(Hardness)-1.702)*(0.96)}$	

**Table 6. Water Quality Standards for Dissolved Lead**

<b>Acute Aquatic and Wildlife Coldwater AZ and Warmwater AZ</b>		<b>Chronic Aquatic and Wildlife Coldwater AZ and Warmwater AZ</b>	
<b>Hard. mg/L</b>	<b>Std. µg/L</b>	<b>Hard. mg/L</b>	<b>Std. µg/L</b>
<u>20</u>	<u>10.8</u>	<u>20</u>	<u>0.42</u>
<u>100</u>	<u>64.6</u>	<u>100</u>	<u>2.5</u>
<u>400</u>	<u>281</u>	<u>400</u>	<u>10.9</u>
$e^{(1.273*LN(Hardness)-1.46)*(1.46203-3-(LN(Hardness))*(0.145712))}$		$e^{(1.273*LN(Hardness)-4.705)*(1.46203-(LN(Hardness))*(0.145712))}$	

**Table 7. Water Quality Standards for Dissolved Nickel**

<b>Acute Aquatic and Wildlife Coldwater AZ and Warmwater AZ</b>	<b>Chronic Aquatic and Wildlife Coldwater AZ and Warmwater AZ</b>
-----------------------------------------------------------------	-------------------------------------------------------------------

<u>Hard. mg/L</u>	<u>Std. µg/L</u>		<u>Hard. mg/L</u>	<u>Std. µg/L</u>
<u>20</u>	<u>120.0</u>		<u>20</u>	<u>13.3</u>
<u>100</u>	<u>468</u>		<u>100</u>	<u>52.0</u>
<u>400</u>	<u>1513</u>		<u>400</u>	<u>168</u>
$\frac{1}{e}(0.846*LN(Hardness)+2.255)*(0.998)$			$\frac{1}{e}(0.846*LN(Hardness)+0.0584)*(0.997)$	

**Table 8. Water Quality Standards for Dissolved Silver**

<u>Acute Aquatic and Wildlife Coldwater AZ and Warmwater AZ</u>	
<u>Hard. mg/L</u>	<u>Std. µg/L</u>
<u>20</u>	<u>0.20</u>
<u>100</u>	<u>3.2</u>
<u>400</u>	<u>34.9</u>
$\frac{1}{e}(1.72*LN(Hardness)-6.59)*(0.85)$	

**Table 9. Water Quality Standards for Dissolved Zinc**

<u>Acute and Chronic Aquatic and Wildlife Coldwater AZ and Warmwater AZ</u>	
<u>Hard. mg/L</u>	<u>Std. µg/L</u>
<u>20</u>	<u>30.0</u>
<u>100</u>	<u>117</u>
<u>400</u>	<u>379</u>
$\frac{1}{e}(0.8473*LN(Hardness)+0.884)*(0.978)$	

**Table 10. Water Quality Standards for Pentachlorophenol**

<u>Acute Aquatic and Wildlife Coldwater AZ and Warmwater AZ</u>		<u>Chronic Aquatic and Wildlife Coldwater AZ and Warmwater AZ</u>	
<u>pH</u>	<u>µg/L</u>	<u>pH</u>	<u>µg/L</u>
<u>3</u>	<u>0.16</u>	<u>3</u>	<u>0.1</u>
<u>6</u>	<u>3.3</u>	<u>6</u>	<u>2.1</u>
<u>9</u>	<u>67.7</u>	<u>9</u>	<u>42.7</u>
$\frac{1}{e}(1.005*(pH)-4.83)$		$\frac{1}{e}(1.005*(pH)-5.29)$	

**Table 11. Acute Standards for Total Ammonia (in mg/L, as N) for Aquatic and Wildlife Coldwater AZ, Unionid Mussels Present**

For the aquatic and wildlife coldwater AZ uses, unionids will be assumed to be present unless a study is performed demonstrating that they are absent and there is no historic evidence of their presence, or hydrologic modification has altered the flow regime in a way that would prevent their reestablishment.

pH	Temperature (°C)																
	0-14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	33	33	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	31	31	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	30	30	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9
6.8	28	28	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	26	26	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7	24	24	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	8	7.3
7.1	22	22	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	20	20	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6
7.3	18	18	17	16	14	13	12	11	10	9.5	8.7	8	7.4	6.8	6.3	5.8	5.3
7.4	15	15	15	14	13	12	11	9.8	9	8.3	7.7	7	6.5	6	5.5	5.1	4.7
7.5	13	13	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4
7.6	11	11	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	9.6	9.6	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	3
7.8	8.1	8.1	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4	3.7	3.4	3.2	2.9	2.7	2.5
7.9	6.8	6.8	6.6	6	5.6	5.1	4.7	4.3	4	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8	5.6	5.6	5.4	5	4.6	4.2	3.9	3.6	3.3	3	2.8	2.6	2.4	2.2	2	1.9	1.7
8.1	4.6	4.6	4.5	4.1	3.8	3.5	3.2	3	2.7	2.5	2.3	2.1	2	1.8	1.7	1.5	1.4
8.2	3.8	3.8	3.7	3.5	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	3.1	3.1	3.1	2.8	2.6	2.4	2.2	2	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1	0.96
8.4	2.6	2.6	2.5	2.3	2.1	2	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1	0.93	0.86	0.79
8.5	2.1	2.1	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.9	0.83	0.77	0.71	0.65
8.6	1.8	1.8	1.7	1.6	1.5	1.3	1.2	1.1	1	0.96	0.88	0.81	0.75	0.69	0.63	0.59	0.54
8.7	1.5	1.5	1.4	1.3	1.2	1.1	1	0.94	0.87	0.8	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.2	1.2	1.2	1.1	1	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1	1	1	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.4	0.37	0.34	0.32
9	0.88	0.88	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

$$\text{MIN}\left(\frac{0.275}{1 + 10^{7.204 - \text{pH}}} + \frac{39.0}{1 + 10^{\text{pH} - 7.204}}\right) \cdot \left(0.7249 \times \left(\frac{0.0114}{1 + 10^{7.204 - \text{pH}}} + \frac{1.6181}{1 + 10^{\text{pH} - 7.204}}\right) \times (23.12 \times 10^{0.036 \times (20 - T)})\right)$$

**Table 12. Acute Standards for Total Ammonia (in mg/L, as N) for Aquatic and Wildlife Warmwater AZ, Unionid Mussels Present**

For the aquatic and wildlife warmwater AZ uses, unionids will be assumed to be present unless a study is performed demonstrating that they are absent and there is no historic evidence of their presence, or hydrologic modification has altered the flow regime in a way that would prevent their reestablishment.

pH	Temperature (°C)																				
	0-10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	51	48	44	41	37	34	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	49	46	42	39	36	33	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	46	44	40	37	34	31	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9
6.8	44	41	38	35	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	41	38	35	32	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7	38	35	33	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9	7.3
7.1	34	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	31	29	27	25	23	21	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6
7.3	27	26	24	22	20	18	17	16	14	13	12	11	10	9.5	8.7	8	7.4	6.8	6.3	5.8	5.3
7.4	24	22	21	19	18	16	15	14	13	12	11	9.8	9	8.3	7.7	7	6.5	6	5.5	5.1	4.7
7.5	21	19	18	17	15	14	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4
7.6	18	17	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	2.9
7.8	13	12	11	10	9.3	8.5	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4	3.7	3.4	3.2	2.9	2.7	2.5
7.9	11	9.9	9.1	8.4	7.7	7.1	6.6	3	5.6	5.1	4.7	4.3	4	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8	8.8	8.2	7.6	7	6.4	5.9	5.4	5	4.6	4.2	3.9	3.6	3.3	3	2.8	2.6	2.4	2.2	2	1.9	1.7
8.1	7.2	6.8	6.3	5.8	5.3	4.9	4.5	4.1	3.8	3.5	3.2	3	2.7	2.5	2.3	2.1	2	1.8	1.7	1.5	1.4
8.2	6	5.6	5.2	4.8	4.4	4	3.7	3.4	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	4.9	4.6	4.3	3.9	3.6	3.3	3.1	2.8	2.6	2.4	2.2	2	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1	0.96
8.4	4.1	3.8	3.5	3.2	3	2.7	2.5	2.3	2.1	2	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1	0.93	0.86	0.79
8.5	3.3	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.9	0.83	0.77	0.71	0.65
8.6	2.8	2.6	2.4	2.2	2	1.9	1.7	1.6	1.5	1.3	1.2	1.1	1	0.96	0.88	0.81	0.75	0.69	0.63	0.58	0.54
8.7	2.3	2.2	2	1.8	1.7	1.6	1.4	1.3	1.2	1.1	1	0.94	0.87	0.8	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.4	0.37	0.34	0.32
9	1.4	1.3	1.2	1.1	1	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

$$0.7249 \times \left( \frac{0.0114}{1 + 10^{7.204 - \text{pH}}} + \frac{1.6181}{1 + 10^{\text{pH} - 7.204}} \right) \times \text{MIN}(51.93, 23.12 \times 10^{0.036 \times (20 - T)})$$

**Table 13. Chronic Criteria for Total Ammonia (in mg/L, as N) for Aquatic and Wildlife Coldwater AZ and Warmwater AZ, Unionid Mussels Present**

For the aquatic and wildlife coldwater and warmwater AZ uses, unionids will be assumed to be present unless a study is performed demonstrating that they are absent and there is no historic evidence of their presence, or hydrologic modification has altered the flow regime in a way that would prevent their reestablishment.

pH	Temperature (°C)																													
	0-7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
6.5	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.4	2.3	2.1	2	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.2	1.1						
6.6	4.8	4.5	4.3	4	3.8	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1						
6.7	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1						
6.8	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3	2.8	2.6	2.4	2.3	2.1	2	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1						
6.9	4.5	4.2	4	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1						
7	4.4	4.1	3.8	3.6	3.4	3.2	3	2.8	2.6	2.4	2.3	2.2	2	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	0.99						
7.1	4.2	3.9	3.7	3.5	3.2	3	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1	0.95						
7.2	4	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1	0.96	0.9						
7.3	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.2	2.1	2	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1	0.97	0.91	0.85						
7.4	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1	0.96	0.9	0.85	0.79						
7.5	3.2	3	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1	0.95	0.89	0.83	0.78	0.73						
7.6	2.9	2.8	2.6	2.4	2.3	2.1	2	1.9	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.1	0.98	0.92	0.86	0.81	0.76	0.71	0.67						
7.7	2.6	2.4	2.3	2.2	2	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.6						
7.8	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53						
7.9	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.5	0.47						
8	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.6	0.56	0.53	0.5	0.44	0.44	0.41						
8.1	1.5	1.5	1.4	1.3	1.2	1.1	1.1	0.99	0.92	0.87	0.81	0.76	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.4	0.38	0.35	0.33	0.31	0.29	0.27	0.26	
8.2	1.3	1.2	1.2	1.1	1	0.96	0.9	0.84	0.79	0.74	0.7	0.65	0.61	0.57	0.54	0.5	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.3						
8.3	1.1	1.1	0.99	0.93	0.87	0.82	0.76	0.72	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.4	0.38	0.35	0.33	0.31	0.29	0.27	0.26						
8.4	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.5	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.3	0.28	0.26	0.25	0.23	0.22						
8.5	0.8	0.75	0.71	0.67	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.4	0.37	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.22	0.21	0.2	0.18						
8.6	0.68	0.64	0.6	0.56	0.53	0.49	0.46	0.43	0.41	0.38	0.36	0.33	0.31	0.29	0.28	0.26	0.24	0.23	0.21	0.2	0.19	0.18	0.16	0.15						
8.7	0.57	0.54	0.51	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.3	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.1	0.09		
8.8	0.49	0.46	0.43	0.4	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.2	0.19	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11	0.1	0.09				
8.9	0.42	0.39	0.37	0.34	0.32	0.3	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.1	0.09						
9	0.36	0.34	0.32	0.3	0.28	0.26	0.24	0.23	0.21	0.2	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.1	0.09	0.09	0.08						
$0.8876 \times \left( \frac{0.0278}{1 + 10^{7.688 - \text{pH}}} + \frac{1.1994}{1 + 10^{\text{pH} - 7.688}} \right) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T,7)))}$																														

**Table 14. Acute Standards for Total Ammonia (in mg/L, as N) for Aquatic and Wildlife Coldwater AZ, Unionid Mussels Absent**

For the aquatic and wildlife coldwater uses, unionids will be assumed to be present unless a study is performed demonstrating that they are absent and there is no historic evidence of their presence, or hydrologic modification has altered the flow regime in a way that would prevent their reestablishment.

pH	Temperature (°C)																
	0-14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	33	33	33	33	33	33	33	33	33	33	33	33	33	33	31	29	27
6.6	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	28	26
6.7	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	26	24
6.8	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	25	23
6.9	26	26	26	26	26	26	26	26	26	26	26	26	26	26	25	23	21
7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	21	20
7.1	22	22	22	22	22	22	22	22	22	22	22	22	22	22	21	19	18
7.2	20	20	20	20	20	20	20	20	20	20	20	20	20	20	19	17	16
7.3	18	18	18	18	18	18	18	18	18	18	18	18	18	18	17	16	14
7.4	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	13
7.5	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	12	11
7.6	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	10	9.3
7.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.3	8.6	7.9
7.8	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.8	7.2	6.6
7.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.5	6	5.5
8	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5	4.6
8.1	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.1	3.8
8.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.4	3.1
8.3	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3	2.8	2.6
8.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.1
8.5	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.8
8.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.4
8.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
8.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1
8.9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.92	0.85
9	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.85	0.78	0.72
$MIN\left(\left(\frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}\right), \left(0.7249 \times \left(\frac{0.0114}{1 + 10^{7.204 - pH}} + \frac{1.6181}{1 + 10^{pH - 7.204}}\right) \times (62.15 \times 10^{0.036 \times (20 - T)})\right)\right)$																	

**Table 15. Acute Standards for Total Ammonia (in mg/L, as N) for Aquatic and Wildlife Warmwater AZ Uses, Unionid Mussels Absent**

For the aquatic and wildlife warmwater uses, unionids will be assumed to be present unless a study is performed demonstrating that they are absent and there is no historic evidence of their presence, or hydrologic modification has altered the flow regime in a way that would prevent their reestablishment. For the aquatic and wildlife effluent dependent uses, unionids will be assumed to be absent.

pH	Temperature (°C)																
	0-14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	51	51	51	51	51	51	51	51	51	48	44	40	37	34	31	29	27
6.6	49	49	49	49	49	49	49	49	49	46	42	39	36	33	30	28	26
6.7	46	46	46	46	46	46	46	46	46	43	40	37	34	31	29	26	24
6.8	44	44	44	44	44	44	44	44	44	41	38	35	32	29	27	25	23
6.9	41	41	41	41	41	41	41	41	41	38	35	32	30	27	25	23	21
7	38	38	38	38	38	38	38	38	38	35	32	30	27	25	23	21	20
7.1	34	34	34	34	34	34	34	34	34	32	29	27	25	23	21	19	18
7.2	31	31	31	31	31	31	31	31	31	29	26	24	22	21	19	17	16
7.3	27	27	27	27	27	27	27	27	27	26	23	22	20	18	17	16	14
7.4	24	24	24	24	24	24	24	24	24	22	21	19	17	16	15	14	13
7.5	21	21	21	21	21	21	21	21	21	19	18	16	15	14	13	12	11
7.6	18	18	18	18	18	18	18	18	18	17	15	14	13	12	11	10	9.3
7.7	15	15	15	15	15	15	15	15	15	14	13	12	11	10	9.3	8.6	7.9
7.8	13	13	13	13	13	13	13	13	13	12	11	10	9.2	8.5	7.8	7.2	6.6
7.9	11	11	11	11	11	11	11	11	11	9.9	9.1	8.4	7.7	7.1	6.5	6	5.5
8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.2	7.5	6.9	6.4	5.9	5.4	5	4.6
8.1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.8	6.2	5.7	5.3	4.9	4.5	4.1	3.8
8.2	6	6	6	6	6	6	6	6	6	5.6	5.1	4.7	4.4	4	3.7	3.4	3.1
8.3	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.2	3.9	3.6	3.3	3	2.8	2.6
8.4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.8	3.4	3.2	3	2.7	2.5	2.3	2.1
8.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.6	2.4	2.2	2.1	1.9	1.8
8.6	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.4	2.2	2	1.9	1.7	1.6	1.4
8.7	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2	1.8	1.7	1.5	1.4	1.3	1.2
8.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1
8.9	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3	1.2	1.1	1	0.92	0.85
9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1	1	0.93	0.85	0.78	0.72
$0.7249 \times \left( \frac{0.0114}{1 + 10^{7.204 - pH}} + \frac{1.6181}{1 + 10^{pH - 7.204}} \right) \times \text{MIN} \left( 51.93, (62.15 \times 10^{0.036 \times (20 - T)}) \right)$																	

**Table 16. Chronic Standards for Total Ammonia (in mg/L, as N) for Aquatic and Wildlife Warmwater AZ, Unionid Mussels Absent**

For the aquatic and wildlife warmwater uses, unionids will be assumed to be present unless a study is performed demonstrating that they are absent and there is no historic evidence of their presence, or hydrologic modification has altered the flow regime in a way that would prevent their reestablishment. For the aquatic and wildlife effluent dependent uses, unionids will be assumed to be absent.

pH	Temperature (°C)																													
	0-7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
6.5	19	17	16	15	14	13	13	12	11	10	9.7	9.1	8.5	8	7.5	7	6.6	6.2	5.8	5.4	5.1	4.8	4.5	4.2						
6.6	18	17	16	15	14	13	12	12	11	10	9.6	9	8.4	7.9	7.4	6.9	6.5	6.1	5.7	5.4	5	4.7	4.4	4.1						
6.7	18	17	16	15	14	13	12	11	11	10	9.4	8.8	8.3	7.7	7.3	6.8	6.4	6	5.6	5.3	4.9	4.6	4.3	4.1						
6.8	17	16	15	14	14	13	12	11	10	9.8	9.2	8.6	8.1	7.6	7.1	6.7	6.2	5.8	5.5	5.1	4.8	4.5	4.2	4						
6.9	17	16	15	14	13	12	12	11	10	9.5	8.9	8.4	7.8	7.4	6.9	6.5	6.1	5.7	5.3	5	4.7	4.4	4.1	3.9						
7	16	15	14	14	13	12	11	10	9.8	9.2	8.6	8.1	7.6	7.1	6.7	6.2	5.9	5.5	5.1	4.8	4.5	4.2	4	3.7						
7.1	16	15	14	13	12	11	11	10	9.4	8.8	8.3	7.7	7.3	6.8	6.4	6	5.6	5.3	4.9	4.6	4.3	4.1	3.8	3.6						
7.2	15	14	13	12	12	11	10	9.5	9	8.4	7.9	7.4	6.9	6.5	6.1	5.7	5.3	5	4.7	4.4	4.1	3.9	3.6	3.4						
7.3	14	13	12	12	11	10	9.6	9	8.4	7.9	7.4	6.9	6.5	6.1	5.7	5.4	5	4.7	4.4	4.1	3.9	3.6	3.4	3.2						
7.4	13	12	12	11	10	9.5	9	8.4	7.9	7.4	6.9	6.5	6.1	5.7	5.3	5	4.7	4.4	4.1	3.9	3.6	3.4	3.2	3						
7.5	12	11	11	10	9.4	8.8	8.2	7.7	7.2	6.8	6.4	6	5.6	5.2	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8						
7.6	11	10	10	9.1	8.5	8	7.5	7	6.6	6.2	5.8	5.4	5.1	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3	2.9	2.7	2.5						
7.7	9.9	9.3	8.7	8.1	7.7	7.2	6.8	6.3	5.9	5.6	5.2	4.9	4.6	4.3	4	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.3						
7.8	8.8	8.3	7.8	7.3	6.8	6.4	6	5.6	5.3	5	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3	2.8	2.6	2.4	2.3	2.1	2						
7.9	7.8	7.3	6.8	6.4	6	5.6	5.3	5	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3	2.8	2.6	2.4	2.3	2.1	2	1.9	1.8						
8	6.8	6.3	6	5.6	5.2	4.9	4.6	4.3	4	3.8	3.6	3.3	3.1	2.9	2.7	2.6	2.4	2.3	2.1	2	1.9	1.7	1.6	1.5						
8.1	5.8	5.5	5.1	4.8	4.5	4.2	4	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2	1.8	1.7	1.6	1.5	1.4	1.3						
8.2	5	4.7	4.4	4.1	3.9	3.6	3.4	3.2	3	2.8	2.6	2.5	2.3	2.2	2	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1						
8.3	4.2	4	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1	0.96						
8.4	3.6	3.4	3.2	3	2.8	2.6	2.4	2.3	2.1	2	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	0.99	0.92	0.87	0.81						
8.5	3	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1	0.95	0.89	0.83	0.78	0.73	0.69						
8.6	2.6	2.4	2.2	2.1	2	1.9	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1	0.97	0.91	0.85	0.8	0.75	0.7	0.66	0.62	0.58						
8.7	2.2	2	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1	0.93	0.88	0.82	0.77	0.72	0.68	0.63	0.6	0.56	0.52	0.49						
8.8	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1	0.96	0.9	0.85	0.79	0.74	0.7	0.65	0.61	0.58	0.54	0.51	0.47	0.44	0.42						
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1	0.94	0.88	0.82	0.77	0.72	0.68	0.64	0.6	0.56	0.52	0.49	0.46	0.43	0.4	0.38	0.36						
9	1.4	1.3	1.2	1.1	1	0.98	0.92	0.86	0.81	0.76	0.71	0.66	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.4	0.37	0.35	0.33	0.31						

$$0.9405 \times \left( \frac{0.0278}{1 + 10^{7.688 - \text{pH}}} + \frac{1.1994}{1 + 10^{\text{pH} - 7.688}} \right) \times (7.547 \times 10^{0.028 \times (20 - \text{MAX}(7,7))})$$

**Table 17. Chronic Criteria for Total Ammonia (in mg/L, as N) for Aquatic and Wildlife Coldwater AZ, Unionid Mussels Absent**

For the aquatic and wildlife coldwater uses, unionids will be assumed to be present unless a study is performed demonstrating that they are absent and there is no historic evidence of their presence, or hydrologic modification has altered the flow regime in a way that would prevent their reestablishment.

pH	Temperature (°C)																	
	0-14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
6.5	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7	6.6	6.2	5.8	5.4	5.1	4.8	4.5	4.2	
6.6	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.9	6.5	6.1	5.7	5.4	5	4.7	4.4	4.1	
6.7	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.4	6	5.6	5.3	4.9	4.6	4.3	4.1	
6.8	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.6	6.2	5.8	5.5	5.1	4.8	4.5	4.2	4	
6.9	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.5	6.1	5.7	5.3	5	4.7	4.4	4.1	3.9	
7	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.2	5.8	5.5	5.1	4.8	4.5	4.2	4	3.7	
7.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6	5.6	5.3	4.9	4.6	4.3	4.1	3.8	3.6	
7.2	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.7	5.3	5	4.7	4.4	4.1	3.9	3.6	3.4	
7.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5	4.7	4.4	4.1	3.9	3.6	3.4	3.2	
7.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5	4.7	4.4	4.1	3.9	3.6	3.4	3.2	3	
7.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8	
7.6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9	3.7	3.5	3.2	3	2.9	2.7	2.5	
7.7	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.3	
7.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3	2.8	2.6	2.4	2.3	2.1	2	
7.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3	2.8	2.6	2.4	2.3	2.1	2	1.9	1.8	
8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.3	2.1	2	1.9	1.7	1.6	1.5	
8.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	
8.2	2	2	2	2	2	2	2	2	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	
8.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1	$\frac{0.9}{6}$	
8.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1	1.1	$\frac{0.9}{9}$	$\frac{0.9}{3}$	$\frac{0.8}{7}$	$\frac{0.8}{1}$	
8.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1	$\frac{0.9}{5}$	$\frac{0.8}{9}$	$\frac{0.8}{3}$	$\frac{0.7}{8}$	$\frac{0.7}{3}$	$\frac{0.6}{9}$	
8.6	1	1	1	1	1	1	1	1	$\frac{0.9}{7}$	$\frac{0.9}{1}$	$\frac{0.8}{5}$	0.8	$\frac{0.7}{5}$	0.7	$\frac{0.6}{6}$	$\frac{0.6}{2}$	$\frac{0.5}{8}$	
8.7	$\frac{0.86}{6}$	$\frac{0.8}{6}$	$\frac{0.8}{2}$	$\frac{0.7}{7}$	$\frac{0.7}{2}$	$\frac{0.6}{8}$	$\frac{0.6}{4}$	0.6	$\frac{0.5}{6}$	$\frac{0.5}{2}$	$\frac{0.4}{9}$							
8.8	$\frac{0.73}{3}$	$\frac{0.7}{3}$	0.7	$\frac{0.6}{5}$	$\frac{0.6}{1}$	$\frac{0.5}{8}$	$\frac{0.5}{4}$	$\frac{0.5}{1}$	$\frac{0.4}{7}$	$\frac{0.4}{4}$	$\frac{0.4}{2}$							
8.9	$\frac{0.62}{2}$	$\frac{0.6}{2}$	0.6	$\frac{0.5}{6}$	$\frac{0.5}{2}$	$\frac{0.4}{9}$	$\frac{0.4}{6}$	$\frac{0.4}{3}$	$\frac{0.4}{1}$	$\frac{0.3}{8}$	$\frac{0.3}{6}$							
9	$\frac{0.54}{4}$	$\frac{0.5}{4}$	$\frac{0.5}{1}$	$\frac{0.4}{8}$	$\frac{0.4}{5}$	$\frac{0.4}{2}$	0.4	$\frac{0.3}{7}$	$\frac{0.3}{5}$	$\frac{0.3}{3}$	$\frac{0.3}{1}$							
$0.9405 \times \left( \frac{0.0278}{1 + 10^{7.688 - pH}} + \frac{1.1994}{1 + 10^{pH - 7.688}} \right) \times \text{MIN} \left( 6.920, \left( 7.547 \times 10^{0.028 \times (20 - T)} \right) \right)$																		

**R18-2-214. The Protected Surface Waters List**

**Table A. Non-WOTUS Protected Surface Waters and Designated Uses**

Watershed	Surface Waters	Segment Description and Location (Latitude and Longitudes are in NAD 83)	Aquatic and Wildlife		Human Health				Agricultural	
			A&Wc AZ	A&Ww AZ	FBC AZ	PBC AZ	DWS AZ	FC AZ	AgI AZ	AgL AZ
CG	Cottonwood Creek	Headwaters to confluence with unnamed tributary at 35°20'46"/113°35'31"	A&Wc AZ		FBC AZ			FC AZ		AgL AZ
CG	Cottonwood Creek	Below confluence with unnamed tributary to confluence with Colorado River		A&Ww AZ	FBC AZ			FC AZ		AgL AZ
CG	Wright Canyon Creek	Headwaters to confluence with unnamed tributary at 35°20'48"/113°30'40"	A&Wc AZ		FBC AZ			FC AZ		AgL AZ
CG	Wright Canyon Creek	Below confluence with unnamed tributary to confluence with Truxton Wash		A&Ww AZ	FBC AZ			FC AZ		AgL AZ
LC	Boot Lake	34°58'54"/111°20'11"	A&Wc AZ		FBC AZ			FC AZ		AgL AZ
LC	Little Ortega Lake	34°22'47"/109°40'06"	A&Wc AZ		FBC AZ			FC AZ		
LC	Mormon Lake	34°56'38"/111°27'25"	A&Wc AZ		FBC AZ		DWS AZ	FC AZ	AgI AZ	AgL AZ
LC	Potato Lake	35°03'15"/111°24'13"	A&Wc AZ		FBC AZ			FC AZ		AgL AZ
LC	Pratt Lake	34°01'32"/109°04'18"	A&Wc AZ		FBC AZ			FC AZ		
LC	Sponseller Lake	34°14'09"/109°50'45"	A&Wc AZ		FBC AZ			FC AZ		AgL AZ
LC	Vail Lake	35°05'23"/111°30'46"	A&Wc AZ		FBC AZ			FC AZ		AgL AZ
LC	Water Canyon Reservoir	34°00'16"/109°20'05"		A&Ww AZ	FBC AZ			FC AZ	AgI AZ	AgL AZ
MG	Alvord Park Lake	35th Avenue & Baseline Road, Phoenix at 33°22'23"/112°08'20"		A&Ww AZ		PBC AZ		FC AZ		
MG	Bonsall Park Lake	59th Avenue & Bethany Home Road, Phoenix at 33°31'24"/112°11'08"		A&Ww AZ		PBC AZ		FC AZ		
MG	Canal Park Lake	College Avenue & Curry Road, Tempe at 33°26'54"/111°56'19"		A&Ww AZ		PBC AZ		FC AZ		
MG	Cortez Park Lake	35th Avenue & Dunlap, Glendale at 33°34'13"/112°07'52"		A&Ww AZ		PBC AZ		FC AZ		
MG	Encanto Park Lake	15th Avenue & Encanto Blvd., Phoenix at 33°28'28"/112°05'18"		A&Ww AZ		PBC AZ		FC AZ	AgI AZ	
SP	Big Creek	Headwaters to confluence with Pitchfork Canyon	A&Wc AZ		FBC AZ			FC AZ		AgL AZ
SP	Goudy Canyon Creek	Headwaters to confluence with Grant Creek	A&Wc AZ		FBC AZ			FC AZ		
SP	Grant Creek	Headwaters to confluence with unnamed tributary at 32°38'10"/109°56'37"		A&Ww AZ	FBC AZ		DWS AZ	FC AZ		
SP	Grant Creek	Below confluence with unnamed tributary to terminus near Willcox Playa		A&Ww AZ	FBC AZ			FC AZ		
SP	High Creek	Headwaters to confluence with unnamed tributary at 32°33'08"/110°14'42"	A&Wc AZ		FBC AZ			FC AZ		AgL AZ

SP	High Creek	Below confluence with unnamed tributary to terminus near Willcox Playa	A&Wc AZ		FBC AZ			FC AZ		Agl AZ
SP	Pinery Creek	Headwaters to State Highway 181	A&Wc AZ		FBC AZ		DWS AZ	FC AZ		Agl AZ
SP	Pinery Creek	Below State Highway 181 to terminus near Willcox Playa		A&Ww AZ	FBC AZ		DWS AZ	FC AZ		Agl AZ
SP	Post Creek	Headwaters to confluence with Grant Creek	A&Wc AZ		FBC AZ			FC AZ	Agl AZ	Agl AZ
SP	Riggs Lake	32°42'28"/109°57'53"	A&Wc AZ		FBC AZ			FC AZ	Agl AZ	Agl AZ
SP	Rock Creek	Headwaters to confluence with Turkey Creek Alc			FBC AZ			FC AZ		Agl AZ
SP	Soldier Creek	Headwaters to confluence with Post Creek at 32°40'50"/109°54'41"	A&Wc AZ		FBC AZ			FC AZ		Agl AZ
SP	Snow Flat Lake	32°39'10"/109°51'54"	A&Wc AZ		FBC AZ			FC AZ	Agl AZ	Agl AZ
SP	Turkey Creek	Headwaters to confluence with Rock Creek	A&Wc AZ		FBC AZ			FC AZ	Agl AZ	Agl AZ
SP	Turkey Creek	Below confluence with Rock Creek to terminus near Willcox Playa		A&Ww AZ	FBC AZ			FC AZ	Agl AZ	Agl AZ
SP	Ward Canyon Creek	Headwaters to confluence with Turkey Creek	A&Wc AZ		FBC AZ			FC AZ		Agl AZ
SP	Stoneman Lake	34°46'47"/111°31'14"	A&Wc AZ		FBC AZ			FC AZ	Agl AZ	Agl AZ
SR	Snow Flat Lake	32°39'10"/109°51'54"	A&Wc AZ		FBC AZ			FC AZ	Agl AZ	Agl AZ
UG	Ward Canyon	Headwaters to confluence with Turkey Creek	A&Wc AZ		FBC AZ			FC AZ		Agl AZ
VR	Moonshine Creek	Headwaters to confluence with Post Creek	A&Wc AZ		FBC AZ			FC AZ		Agl AZ

**Table B. WOTUS Protected Surface Waters**

WOTUS Protected Surface Waters have their designated uses assigned by Title 18, Chapter 11, Article 1. Coordinates are from the North American Datum of 1983 (NAD83). All latitudes in Arizona are north and all longitudes are west, but the negative signs are not included in the WOTUS Protected Surface Water's table. Some web-based mapping systems require a negative sign before the longitude values to indicate it is a west longitude.

**Watersheds:**

- \_\_\_\_\_ BW = Bill Williams
- \_\_\_\_\_ CG = Colorado – Grand Canyon
- \_\_\_\_\_ CL = Colorado – Lower Gila
- \_\_\_\_\_ LC = Little Colorado
- \_\_\_\_\_ MG = Middle Gila
- \_\_\_\_\_ SC = Santa Cruz – Rio Magdalena – Rio Sonoyta
- \_\_\_\_\_ SP = San Pedro – Willcox Playa – Rio Yaqui
- \_\_\_\_\_ SR = Salt River
- \_\_\_\_\_ UG = Upper Gila
- \_\_\_\_\_ VR = Verde River

**Other Abbreviations:**

- \_\_\_\_\_ WWTP = Wastewater Treatment Plant
- \_\_\_\_\_ Km = kilometers

<u>Watershed</u>	<u>Surface Waters</u>	<u>Segment Description and Location (Latitude and Longitudes are in NAD 83)</u>
<u>BW</u>	<u>Alamo Lake</u>	<u>34°14'06"/113°35'00"</u>
<u>BW</u>	<u>Big Sandy River</u>	<u>Headwaters to Alamo Lake</u>
<u>BW</u>	<u>Bill Williams River</u>	<u>Alamo Lake to confluence with Colorado River</u>
<u>BW</u>	<u>Blue Tank</u>	<u>34°40'14"/112°58'17"</u>
<u>BW</u>	<u>Boulder Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°41'13"/113°03'37"</u>
<u>BW</u>	<u>Boulder Creek</u>	<u>Below confluence with unnamed tributary to confluence with Burro Creek</u>
<u>BW</u>	<u>Burro Creek (OAW)</u>	<u>Headwaters to confluence with Boulder Creek</u>
<u>BW</u>	<u>Burro Creek</u>	<u>Below confluence with Boulder Creek to confluence with Big Sandy River</u>
<u>BW</u>	<u>Carter Tank</u>	<u>34°52'27"/112°57'31"</u>
<u>BW</u>	<u>Conger Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°45'15"/113°05'46"</u>
<u>BW</u>	<u>Conger Creek</u>	<u>Below confluence with unnamed tributary to confluence with Burro Creek</u>
<u>BW</u>	<u>Copper Basin Wash</u>	<u>Headwaters to confluence with unnamed tributary at 34°28'12"/112°35'33"</u>
<u>BW</u>	<u>Copper Basin Wash</u>	<u>Below confluence with unnamed tributary to confluence with Skull Valley Wash</u>
<u>BW</u>	<u>Cottonwood Canyon</u>	<u>Headwaters to Bear Trap Spring</u>
<u>BW</u>	<u>Cottonwood Canyon</u>	<u>Below Bear Trap Spring to confluence at Sycamore Creek</u>
<u>BW</u>	<u>Date Creek</u>	<u>Headwaters to confluence with Santa Maria River</u>
<u>BW</u>	<u>Francis Creek (OAW)</u>	<u>Headwaters to confluence with Burro Creek</u>
<u>BW</u>	<u>Kirkland Creek</u>	<u>Headwaters to confluence with Santa Maria River</u>
<u>BW</u>	<u>Knight Creek</u>	<u>Headwaters to confluence with Big Sandy River</u>
<u>BW</u>	<u>Peoples Canyon (OAW)</u>	<u>Headwaters to confluence with Santa Maria River</u>
<u>BW</u>	<u>Red Lake</u>	<u>35°12'18"/113°03'57"</u>
<u>BW</u>	<u>Santa Maria River</u>	<u>Headwaters to Alamo Lake</u>
<u>BW</u>	<u>Trout Creek</u>	<u>Headwaters to confluence with unnamed tributary at 35°06'47"/113°13'01"</u>
<u>BW</u>	<u>Trout Creek</u>	<u>Below confluence with unnamed tributary to confluence with Knight Creek</u>
<u>BW</u>	<u>Unnamed wash to Unnamed trib to Peacock Wash</u>	<u>Headwaters to Unnamed trib AT 35 10 39.5/113 46 55.5</u>
<u>CG</u>	<u>Agate Canyon</u>	<u>Headwaters to confluence with the Colorado River</u>
<u>CG</u>	<u>Beaver Dam Wash</u>	<u>Headwaters to confluence with the Virgin River</u>
<u>CG</u>	<u>Big Springs Tank</u>	<u>36°36'08"/112°21'01"</u>
<u>CG</u>	<u>Boucher Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
<u>CG</u>	<u>Bright Angel Creek</u>	<u>Headwaters to confluence with Roaring Springs Creek</u>
<u>CG</u>	<u>Bright Angel Creek</u>	<u>Below Roaring Spring Springs Creek to confluence with Colorado River</u>
<u>CG</u>	<u>Bright Angel Wash</u>	<u>Headwaters to Grand Canyon National Park South Rim WWTP outfall at 36°02'59"/112°09'02"</u>
<u>CG</u>	<u>Bright Angel Wash (EDW)</u>	<u>Grand Canyon National Park South Rim WWTP outfall to Coconino Wash</u>
<u>CG</u>	<u>Bulrush Canyon Wash</u>	<u>Headwaters to confluence with Kanab Creek</u>
<u>CG</u>	<u>Cataract Creek</u>	<u>Headwaters to Santa Fe Reservoir</u>
<u>CG</u>	<u>Cataract Creek</u>	<u>Santa Fe Reservoir to City of Williams WWTP outfall at 35°14'40"/112°11'18"</u>
<u>CG</u>	<u>Cataract Creek (EDW)</u>	<u>City of Williams WWTP outfall to 1 km downstream</u>
<u>CG</u>	<u>Cataract Creek</u>	<u>Red Lake Wash to Havasupai Indian Reservation boundary</u>
<u>CG</u>	<u>Cataract Lake</u>	<u>35°15'04"/112°12'58"</u>

CG	<u>Chuar Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°11'35"/111°52'20"</u>
CG	<u>Chuar Creek</u>	<u>Below unnamed tributary to confluence with the Colorado River</u>
CG	<u>City Reservoir</u>	<u>35°13'57"/112°11'25"</u>
CG	<u>Clear Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°07'33"/112°00'03"</u>
CG	<u>Clear Creek</u>	<u>Below confluence with unnamed tributary to confluence with Colorado River</u>
CG	<u>Coconino Wash (EDW)</u>	<u>South Grand Canyon Sanitary District Tusayan WRF outfall at 35°58'39"/112°08'25" to 1 km downstream</u>
CG	<u>Colorado River</u>	<u>Lake Powell to Lake Mead</u>
CG	<u>Crystal Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°13'41"/112°11'49"</u>
CG	<u>Crystal Creek</u>	<u>Below confluence with unnamed tributary to confluence with Colorado River</u>
CG	<u>Deer Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°26'15"/112°28'20"</u>
CG	<u>Deer Creek</u>	<u>Below confluence with unnamed tributary to confluence with Colorado River</u>
CG	<u>Detrital Wash</u>	<u>Headwaters to Lake Mead</u>
CG	<u>Dogtown Reservoir</u>	<u>35°12'40"/112°07'54"</u>
CG	<u>Dragon Creek</u>	<u>Headwaters to confluence with Milk Creek</u>
CG	<u>Dragon Creek</u>	<u>Below confluence with Milk Creek to confluence with Crystal Creek</u>
CG	<u>Garden Creek</u>	<u>Headwaters to confluence with Pipe Creek</u>
CG	<u>Gonzalez Lake</u>	<u>35°15'26"/112°12'09"</u>
CG	<u>Grand Wash</u>	<u>Headwaters to Colorado River</u>
CG	<u>Grapevine Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Grapevine Wash</u>	<u>Headwaters to Colorado River</u>
CG	<u>Hakatai Canyon</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Hance Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Havasupai Creek</u>	<u>From the Havasupai Indian Reservation boundary to confluence with the Colorado River</u>
CG	<u>Hermit Creek</u>	<u>Headwaters to Hermit Pack Trail crossing at 36°03'38"/112°14'00"</u>
CG	<u>Hermit Creek</u>	<u>Below Hermit Pack Trail crossing to confluence with the Colorado River</u>
CG	<u>Horn Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Hualapai Wash</u>	<u>Headwaters to Lake Mead</u>
CG	<u>Jacob Lake</u>	<u>36°42'27"/112°13'50"</u>
CG	<u>Kaibab Lake</u>	<u>35°17'04"/112°09'32"</u>
CG	<u>Kanab Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Kwaqunt Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°13'37"/111°54'50"</u>
CG	<u>Kwaqunt Creek</u>	<u>Below confluence with unnamed tributary to confluence with the Colorado River</u>
CG	<u>Lake Mead</u>	<u>36°06'18"/114°26'33"</u>
CG	<u>Lake Powell</u>	<u>36°59'53"/111°08'17"</u>
CG	<u>Lonetree Canyon Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Matkatamiba Creek</u>	<u>Below Havasupai Indian Reservation boundary to confluence with the Colorado River</u>
CG	<u>Monument Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Nankoweap Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°15'29"/111°57'26"</u>
CG	<u>Nankoweap Creek</u>	<u>Below confluence with unnamed tributary to confluence with Colorado River</u>
CG	<u>National Canyon Creek</u>	<u>Headwaters to Hualapai Indian Reservation boundary at 36°15'15"/112°52'34"</u>

CG	<u>North Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°33'58"/111°55'41"</u>
CG	<u>North Canyon Creek</u>	<u>Below confluence with unnamed tributary to confluence with Colorado River</u>
CG	<u>Olo Canyon</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Parashant Canyon</u>	<u>Headwaters to confluence with unnamed tributary at 36°21'02"/113°27'56"</u>
CG	<u>Parashant Canyon</u>	<u>Below confluence with unnamed tributary to confluence with the Colorado River</u>
CG	<u>Paria River</u>	<u>Utah border to confluence with the Colorado River</u>
CG	<u>Phantom Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°09'29"/112°08'13"</u>
CG	<u>Phantom Creek</u>	<u>Below confluence with unnamed tributary to confluence with Bright Angel Creek</u>
CG	<u>Pipe Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Red Canyon Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Roaring Springs</u>	<u>36°11'45"/112°02'06"</u>
CG	<u>Roaring Springs Creek</u>	<u>Headwaters to confluence with Bright Angel Creek</u>
CG	<u>Royal Arch Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Ruby Canyon</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Russell Tank</u>	<u>35°52'21"/111°52'45"</u>
CG	<u>Saddle Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°21'36"/112°22'43"</u>
CG	<u>Saddle Canyon Creek</u>	<u>Below confluence with unnamed tributary to confluence with Colorado River</u>
CG	<u>Santa Fe Reservoir</u>	<u>35°14'31"/112°11'10"</u>
CG	<u>Sapphire Canyon</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Serpentine Canyon</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Shinumo Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°18'18"/112°18'07"</u>
CG	<u>Shinumo Creek</u>	<u>Below confluence with unnamed tributary to confluence with the Colorado River</u>
CG	<u>Short Creek</u>	<u>Headwaters to confluence with Fort Pearce Wash</u>
CG	<u>Slate Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Spring Canyon Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Stone Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Tapeats Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Thunder River</u>	<u>Headwaters to confluence with Tapeats Creek</u>
CG	<u>Trail Canyon Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Transept Canyon</u>	<u>Headwaters to Grand Canyon National Park North Rim WWTP outfall at 36°12'20"/112°03'35"</u>
CG	<u>Transept Canyon (EDW)</u>	<u>Grand Canyon National Park North Rim WWTP outfall to 1 km downstream</u>
CG	<u>Transept Canyon</u>	<u>From 1 km downstream of the Grand Canyon National Park North Rim WWTP outfall to confluence with Bright Angel Creek</u>
CG	<u>Travertine Canyon Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Turquoise Canyon</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Unkar Creek</u>	<u>Below confluence with unnamed tributary at 36°07'54"/111°54'06" to confluence with Colorado River</u>
CG	<u>Unnamed Wash (EDW)</u>	<u>Grand Canyon National Park Desert View WWTP outfall at 36°02'06"/111°49'13" to confluence with Cedar Canyon</u>
CG	<u>Unnamed Wash (EDW)</u>	<u>Valle Airpark WRF outfall at 35°38'34"/112°09'22" to confluence with Spring Valley Wash</u>
CG	<u>Vasey's Paradise</u>	<u>A spring at 36°29'52"/111°51'26"</u>
CG	<u>Virgin River</u>	<u>Headwaters to confluence with the Colorado River</u>

CG	<u>Vishnu Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>Warm Springs Creek</u>	<u>Headwaters to confluence with the Colorado River</u>
CG	<u>West Cataract Creek</u>	<u>Headwaters to confluence with Cataract Creek</u>
CG	<u>White Creek</u>	<u>Headwaters to confluence with unnamed tributary at 36°18'45"/112°21'03"</u>
CG	<u>White Creek</u>	<u>Below confluence with unnamed tributary to confluence with the Colorado River</u>
CL	<u>A10 Backwater</u>	<u>33°31'45"/114°33'19"</u>
CL	<u>A7 Backwater</u>	<u>33°34'27"/114°32'04"</u>
CL	<u>Adobe Lake</u>	<u>33°02'36"/114°39'26"</u>
CL	<u>Cibola Lake</u>	<u>33°14'01"/114°40'31"</u>
CL	<u>Clear Lake</u>	<u>33°01'59"/114°31'19"</u>
CL	<u>Columbus Wash</u>	<u>Headwaters to confluence with the Gila River</u>
CL	<u>Colorado River</u>	<u>Lake Mead to Topock Marsh</u>
CL	<u>Colorado River</u>	<u>Topock Marsh to Morelos Dam</u>
CL	<u>Gila River</u>	<u>Painted Rock Dam to confluence with the Colorado River</u>
CL	<u>Holy Moses Wash</u>	<u>Headwaters to City of Kingman Downtown WWTP outfall at 35°10'33"/114°03'46"</u>
CL	<u>Holy Moses Wash (EDW)</u>	<u>City of Kingman Downtown WWTP outfall to 3 km downstream</u>
CL	<u>Holy Moses Wash</u>	<u>From 3 km downstream of City of Kingman Downtown WWTP outfall to confluence with Sawmill Wash</u>
CL	<u>Hunter's Hole Backwater</u>	<u>32°31'13"/114°48'07"</u>
CL	<u>Imperial Reservoir</u>	<u>32°53'02"/114°27'54"</u>
CL	<u>Island Lake</u>	<u>33°01'44"/114°36'42"</u>
CL	<u>Laguna Reservoir</u>	<u>32°51'35"/114°28'29"</u>
CL	<u>Lake Havasu</u>	<u>34°35'18"/114°25'47"</u>
CL	<u>Lake Mohave</u>	<u>35°26'58"/114°38'30"</u>
CL	<u>Martinez Lake</u>	<u>32°58'49"/114°28'09"</u>
CL	<u>Mittry Lake</u>	<u>32°49'17"/114°27'54"</u>
CL	<u>Mohave Wash</u>	<u>Headwaters to Lower Colorado River</u>
CL	<u>Nortons Lake</u>	<u>33°02'30"/114°37'59"</u>
CL	<u>Painted Rock (Borrow Pit) Lake</u>	<u>33°04'55"/113°01'17"</u>
CL	<u>Pretty Water Lake</u>	<u>33°19'51"/114°42'19"</u>
CL	<u>Quigley Pond</u>	<u>32°43'40"/113°57'44"</u>
CL	<u>Redondo Lake</u>	<u>32°44'32"/114°29'03"</u>
CL	<u>Sacramento Wash</u>	<u>Headwaters to Topock Marsh</u>
CL	<u>Sawmill Canyon</u>	<u>Headwaters to abandoned gaging station at 35°09'45"/113°57'56"</u>
CL	<u>Sawmill Canyon</u>	<u>Below abandoned gaging station to confluence with Holy Moses Wash</u>
CL	<u>Topock Marsh</u>	<u>34°43'27"/114°28'59"</u>
CL	<u>Tyson Wash (EDW)</u>	<u>Town of Quartzsite WWTP outfall at 33°42'39"/ 114°13'10" to 1 km downstream</u>
CL	<u>Wellton Canal</u>	<u>Wellton-Mohawk Irrigation District</u>
CL	<u>Yuma Area Canals</u>	<u>Above municipal water treatment plant intakes</u>
CL	<u>Yuma Area Canals</u>	<u>Below municipal water treatment plant intakes and all drains</u>
CL	<u>Castle Dome Wash</u>	<u>Headwaters to Gila River @ 32&lt;U+00B0&gt;45'41.57"/114&lt;U+00B0&gt;23'43.79"</u>

LC	<u>Als Lake</u>	<u>35°02'10"/111°25'17"</u>
LC	<u>Ashurst Lake</u>	<u>35°01'06"/111°24'18"</u>
LC	<u>Atcheson Reservoir</u>	<u>33°59'59"/109°20'43"</u>
LC	<u>Auger Creek</u>	<u>Headwaters to confluence with Nutrioso Creek</u>
LC	<u>Barbershop Canyon Creek</u>	<u>Headwaters to confluence with East Clear Creek</u>
LC	<u>Bear Canyon Creek</u>	<u>Headwaters to confluence with General Springs Canyon</u>
LC	<u>Bear Canyon Creek</u>	<u>Headwaters to confluence with Willow Creek</u>
LC	<u>Bear Canyon Lake</u>	<u>34°24'00"/111°00'06"</u>
LC	<u>Becker Lake</u>	<u>34°09'11"/109°18'23"</u>
LC	<u>Billy Creek</u>	<u>Headwaters to confluence with Show Low Creek</u>
LC	<u>Black Canyon</u>	<u>Headwaters to confluence with Chevelon Creek</u>
LC	<u>Black Canyon Lake</u>	<u>34°20'32"/110°40'13"</u>
LC	<u>Bow and Arrow Wash</u>	<u>Headwaters to confluence with Rio de Flag</u>
LC	<u>Buck Springs Canyon Creek</u>	<u>Headwaters to confluence with Leonard Canyon Creek</u>
LC	<u>Bunch Reservoir</u>	<u>34°02'20"/109°26'48"</u>
LC	<u>Carnero Lake</u>	<u>34°06'57"/109°31'42"</u>
LC	<u>Chevelon Canyon Lake</u>	<u>34°29'18"/110°49'30"</u>
LC	<u>Chevelon Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Chevelon Creek, West Fork</u>	<u>Headwaters to confluence with Chevelon Creek</u>
LC	<u>Chilson Tank</u>	<u>34°51'43"/111°22'54"</u>
LC	<u>Clear Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Clear Creek Reservoir</u>	<u>34°57'09"/110°39'14"</u>
LC	<u>Coconino Reservoir</u>	<u>35°00'05"/111°24'10"</u>
LC	<u>Colter Creek</u>	<u>Headwaters to confluence with Nutrioso Creek</u>
LC	<u>Colter Reservoir</u>	<u>33°56'39"/109°28'53"</u>
LC	<u>Concho Creek</u>	<u>Headwaters to confluence with Carrizo Wash</u>
LC	<u>Concho Lake</u>	<u>34°26'37"/109°37'40"</u>
LC	<u>Cow Lake</u>	<u>34°53'14"/111°18'51"</u>
LC	<u>Coyote Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Cragin Reservoir (formerly Blue Ridge Reservoir)</u>	<u>34°32'40"/111°11'33"</u>
LC	<u>Crisis Lake (Snake Tank #2)</u>	<u>34°47'51"/111°17'32"</u>
LC	<u>Dane Canyon Creek</u>	<u>Headwaters to confluence with Barbershop Canyon Creek</u>
LC	<u>Daves Tank</u>	<u>34°44'22"/111°17'15"</u>
LC	<u>Deep Lake</u>	<u>35°03'34"/111°25'00"</u>
LC	<u>Ducksnest Lake</u>	<u>34°59'14"/111°23'57"</u>
LC	<u>East Clear Creek</u>	<u>Headwaters to confluence with Clear Creek</u>
LC	<u>Ellis Wiltbank Reservoir</u>	<u>34°05'25"/109°28'25"</u>
LC	<u>Estates at Pine Canyon lakes (EDW)</u>	<u>35°09'32"/111°38'26"</u>
LC	<u>Fish Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Fool's Hollow Lake</u>	<u>34°16'30"/110°03'43"</u>

LC	<u>General Springs Canyon Creek</u>	<u>Headwaters to confluence with East Clear Creek</u>
LC	<u>Geneva Reservoir</u>	<u>34°01'45"/109°31'46"</u>
LC	<u>Hall Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Hart Canyon Creek</u>	<u>Headwaters to confluence with Willow Creek</u>
LC	<u>Hay Lake</u>	<u>34°00'11"/109°25'57"</u>
LC	<u>Hog Wallow Lake</u>	<u>33°58'57"/109°25'39"</u>
LC	<u>Horse Lake</u>	<u>35°03'55"/111°27'50"</u>
LC	<u>Hulsey Creek</u>	<u>Headwaters to confluence with Nutrioso Creek</u>
LC	<u>Hulsey Lake</u>	<u>33°55'58"/109°09'40"</u>
LC	<u>Indian Lake</u>	<u>35°00'39"/111°22'41"</u>
LC	<u>Jacks Canyon Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Jarvis Lake</u>	<u>33°58'59"/109°12'36"</u>
LC	<u>Kinnikinick Lake</u>	<u>34°53'53"/111°18'18"</u>
LC	<u>Knoll Lake</u>	<u>34°25'38"/111°05'13"</u>
LC	<u>Lake Humphreys (EDW)</u>	<u>35°11'51"/111°35'19"</u>
LC	<u>Lake Mary, Lower</u>	<u>35°06'21"/111°34'38"</u>
LC	<u>Lake Mary, Upper</u>	<u>35°03'23"/111°28'34"</u>
LC	<u>Lake of the Woods</u>	<u>34°09'40"/109°58'47"</u>
LC	<u>Lee Valley Creek (OAW)</u>	<u>Headwaters to Lee Valley Reservoir</u>
LC	<u>Lee Valley Creek</u>	<u>From Lee Valley Reservoir to confluence with the East Fork of the Little Colorado River</u>
LC	<u>Lee Valley Reservoir</u>	<u>33°56'29"/109°30'04"</u>
LC	<u>Leonard Canyon Creek</u>	<u>Headwaters to confluence with Clear Creek</u>
LC	<u>Leonard Canyon Creek, East Fork</u>	<u>Headwaters to confluence with Leonard Canyon Creek</u>
LC	<u>Leonard Canyon Creek, Middle Fork</u>	<u>Headwaters to confluence with Leonard Canyon, West Fork</u>
LC	<u>Leonard Canyon Creek, West Fork</u>	<u>Headwaters to confluence with Leonard Canyon, East Fork</u>
LC	<u>Lily Creek</u>	<u>Headwaters to confluence with Coyote Creek</u>
LC	<u>Little Colorado River</u>	<u>Headwaters to Lyman Reservoir</u>
LC	<u>Little Colorado River</u>	<u>Below Lyman Reservoir to confluence with the Puerco River</u>
LC	<u>Little Colorado River</u>	<u>Below Puerco River confluence to the Colorado River, excluding segments on Native American Lands</u>
LC	<u>Little Colorado River, East Fork</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Little Colorado River, South Fork</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Little Colorado River, West Fork (OAW)</u>	<u>Headwaters to Government Springs</u>
LC	<u>Little Colorado River, West Fork</u>	<u>Below Government Springs to confluence with the Little Colorado River</u>
LC	<u>Little George Reservoir</u>	<u>34°00'37"/109°19'15"</u>
LC	<u>Little Mormon Lake</u>	<u>34°17'00"/109°58'06"</u>
LC	<u>Long Lake, Lower</u>	<u>34°47'16"/111°12'40"</u>
LC	<u>Long Lake, Upper</u>	<u>35°00'08"/111°21'23"</u>
LC	<u>Long Tom Tank</u>	<u>34°20'35"/110°49'22"</u>
LC	<u>Lower Walnut Canyon Lake (EDW)</u>	<u>35°12'04"/111°34'07"</u>
LC	<u>Lyman Reservoir</u>	<u>34°21'21"/109°21'35"</u>

LC	<u>Mamie Creek</u>	<u>Headwaters to confluence with Coyote Creek</u>
LC	<u>Marshall Lake</u>	<u>35°07'18"/111°32'07"</u>
LC	<u>McKay Reservoir</u>	<u>34°01'27"/109°13'48"</u>
LC	<u>Merritt Draw Creek</u>	<u>Headwaters to confluence with Barbershop Canyon Creek</u>
LC	<u>Mexican Hay Lake</u>	<u>34°01'58"/109°21'25"</u>
LC	<u>Milk Creek</u>	<u>Headwaters to confluence with Hulsey Creek</u>
LC	<u>Miller Canyon Creek</u>	<u>Headwaters to confluence with East Clear Creek</u>
LC	<u>Miller Canyon Creek, East Fork</u>	<u>Headwaters to confluence with Miller Canyon Creek</u>
LC	<u>Morton Lake</u>	<u>34°53'37"/111°17'41"</u>
LC	<u>Mud Lake</u>	<u>34°55'19"/111°21'29"</u>
LC	<u>Ned Lake (EDW)</u>	<u>34°17'17"/110°03'22"</u>
LC	<u>Nelson Reservoir</u>	<u>34°02'52"/109°11'19"</u>
LC	<u>Norton Reservoir</u>	<u>34°03'57"/109°31'27"</u>
LC	<u>Nutriosio Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Paddy Creek</u>	<u>Headwaters to confluence with Nutriosio Creek</u>
LC	<u>Pierce Seep</u>	<u>34°23'39"/110°31'17"</u>
LC	<u>Pine Tank</u>	<u>34°46'49"/111°17'21"</u>
LC	<u>Pintail Lake (EDW)</u>	<u>34°18'05"/110°01'21"</u>
LC	<u>Porter Creek</u>	<u>Headwaters to confluence with Show Low Creek</u>
LC	<u>Puerco River</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Puerco River (EDW)</u>	<u>Sanders Unified School District WWTP outfall at 35°12'52"/109°19'40" to 0.5 km downstream</u>
LC	<u>Rainbow Lake</u>	<u>34°09'00"/109°59'09"</u>
LC	<u>Reagan Reservoir</u>	<u>34°02'09"/109°08'41"</u>
LC	<u>Rio de Flag</u>	<u>Headwaters to City of Flagstaff WWTP outfall at 35°12'21"/111°39'17"</u>
LC	<u>Rio de Flag (EDW)</u>	<u>From City of Flagstaff WWTP outfall to the confluence with San Francisco Wash</u>
LC	<u>River Reservoir</u>	<u>34°02'01"/109°26'07"</u>
LC	<u>Rogers Reservoir</u>	<u>33°56'30"/109°16'20"</u>
LC	<u>Rudd Creek</u>	<u>Headwaters to confluence with Nutriosio Creek</u>
LC	<u>Russel Reservoir</u>	<u>33°59'29"/109°20'01"</u>
LC	<u>San Salvador Reservoir</u>	<u>33°58'51"/109°19'55"</u>
LC	<u>Scott Reservoir</u>	<u>34°10'31"/109°57'31"</u>
LC	<u>Show Low Creek</u>	<u>Headwaters to confluence with Silver Creek</u>
LC	<u>Show Low Lake</u>	<u>34°11'36"/110°00'12"</u>
LC	<u>Silver Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Slade Reservoir</u>	<u>33°59'41"/109°20'26"</u>
LC	<u>Soldiers Annex Lake</u>	<u>34°47'15"/111°13'51"</u>
LC	<u>Soldiers Lake</u>	<u>34°47'47"/111°14'04"</u>
LC	<u>Spaulding Tank</u>	<u>34°30'17"/111°02'06"</u>
LC	<u>St Johns Reservoir (Little Reservoir)</u>	<u>34°29'10"/109°22'06"</u>
LC	<u>Telephone Lake (EDW)</u>	<u>34°17'35"/110°02'42"</u>
LC	<u>Tremaine Lake</u>	<u>34°46'02"/111°13'51"</u>

LC	<u>Tunnel Reservoir</u>	<u>34°01'53"/109°26'34"</u>
LC	<u>Turkey Draw (EDW)</u>	<u>High Country Pines II WWTP outfall at 33°25'35"/ 110°38'13" to confluence with Black Canyon Creek</u>
LC	<u>Unnamed Wash (EDW)</u>	<u>Bison Ranch WWTP outfall at 34°23'31"/110°31'29" to Pierce Seep</u>
LC	<u>Walnut Creek</u>	<u>Headwaters to confluence with Billy Creek</u>
LC	<u>Water Canyon Creek</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Whale Lake (EDW)</u>	<u>35°11'13"/111°35'21"</u>
LC	<u>Whipple Lake</u>	<u>'34°16'49"/109°58'29"</u>
LC	<u>White Mountain Lake</u>	<u>34°21'57"/109°59'21"</u>
LC	<u>White Mountain Reservoir</u>	<u>34°00'12"/109°30'39"</u>
LC	<u>Willow Creek</u>	<u>Headwaters to confluence with Clear Creek</u>
LC	<u>Willow Springs Canyon Creek</u>	<u>Headwaters to confluence with Chevelon Creek</u>
LC	<u>Willow Springs Lake</u>	<u>34°18'13"/110°52'16"</u>
LC	<u>Woodland Reservoir</u>	<u>34°07'35"/109°57'01"</u>
LC	<u>Woods Canyon Creek</u>	<u>Headwaters to confluence with Chevelon Creek</u>
LC	<u>Woods Canyon Lake</u>	<u>34°20'09"/110°56'45"</u>
LC	<u>Zuni River</u>	<u>Headwaters to confluence with the Little Colorado River</u>
LC	<u>Morrison Creek</u>	<u>Headwaters to Mamie Creek @ 33&lt;U+00B0&gt;59'24.45"/109&lt;U+00B0&gt;03'51.94"</u>
LC	<u>Riggs Creek</u>	<u>Headwaters to Nutrioso Creek</u>
LC	<u>Rosev Creek</u>	<u>Headwaters to Bennv Creek @ 34&lt;U+00B0&gt;02'28.72"/109&lt;U+00B0&gt;27'24.3"</u>
LC	<u>Turkey Creek</u>	<u>Headwaters to Willow Creek @ 34&lt;U+00B0&gt;29'07.45"/110&lt;U+00B0&gt;59'49.85"</u>
MG	<u>Agua Fria River</u>	<u>Headwaters to confluence with unnamed tributary at 34°35'14"/112°16'18"</u>
MG	<u>Agua Fria River (EDW)</u>	<u>Below confluence with unnamed tributary to State Route 169</u>
MG	<u>Agua Fria River</u>	<u>From State Route 169 to Lake Pleasant</u>
MG	<u>Agua Fria River</u>	<u>Below Lake Pleasant to the City of El Mirage WWTP at ' 33°34'20"/112°18'32"</u>
MG	<u>Agua Fria River (EDW)</u>	<u>From City of El Mirage WWTP outfall to 2 km downstream</u>
MG	<u>Agua Fria River</u>	<u>Below 2 km downstream of the City of El Mirage WWTP to City of Avondale WWTP outfall at 33°23'55"/112°21'16"</u>
MG	<u>Agua Fria River</u>	<u>From City of Avondale WWTP outfall to confluence with Gila River</u>
MG	<u>Andorra Wash</u>	<u>Headwaters to confluence with Cave Creek Wash</u>
MG	<u>Antelope Creek</u>	<u>Headwaters to confluence with Martinez Wash</u>
MG	<u>Arlington Canal</u>	<u>From Gila River at 33°20'54"/112°35'39" to Gila River at 33°13'44"/112°46'15"</u>
MG	<u>Ash Creek</u>	<u>Headwaters to confluence with Tex Canyon</u>
MG	<u>Ash Creek</u>	<u>Below confluence with Tex Canyon to confluence with Agua Fria River</u>
MG	<u>Beehive Tank</u>	<u>32°52'37"/111°02'20"</u>
MG	<u>Big Bug Creek</u>	<u>Headwaters to confluence with Eugene Gulch</u>
MG	<u>Big Bug Creek</u>	<u>Below confluence with Eugene Gulch to confluence with Agua Fria River</u>
MG	<u>Black Canyon Creek</u>	<u>Headwaters to confluence with the Agua Fria River</u>
MG	<u>Blind Indian Creek</u>	<u>Headwaters to confluence with the Hassayampa River</u>
MG	<u>Cave Creek</u>	<u>Headwaters to the Cave Creek Dam</u>
MG	<u>Cave Creek</u>	<u>Cave Creek Dam to the Arizona Canal</u>

MG	<u>Centennial Wash</u>	<u>Headwaters to confluence with the Gila River at 33°16'32"/112°48'08"</u>
MG	<u>Centennial Wash Ponds</u>	<u>33°54'52"/113°23'47"</u>
MG	<u>Chaparral Park Lake</u>	<u>Hayden Road &amp; Chaparral Road, Scottsdale at 33°30'40"/111°54'27"</u>
MG	<u>Devils Canyon</u>	<u>Headwaters to confluence with Mineral Creek</u>
MG	<u>East Maricopa Floodway</u>	<u>From Brown and Greenfield Rds to the Gila River Indian Reservation Boundary</u>
MG	<u>Eldorado Park Lake</u>	<u>Miller Road &amp; Oak Street, Tempe at 33°28'25"/111°54'53"</u>
MG	<u>Fain Lake</u>	<u>Town of Prescott Valley Park Lake 34°34'29"/112°21'06"</u>
MG	<u>French Gulch</u>	<u>Headwaters to confluence with Hassayampa River</u>
MG	<u>Galena Gulch</u>	<u>Headwaters to confluence with the Agua Fria River</u>
MG	<u>Galloway Wash (EDW)</u>	<u>Town of Cave Creek WWTP outfall at 33°50'15"/111°57'35" to confluence with Cave Creek</u>
MG	<u>Gila River</u>	<u>San Carlos Indian Reservation boundary to the Ashurst-Hayden Dam</u>
MG	<u>Gila River</u>	<u>Ashurst-Hayden Dam to the Town of Florence WWTP outfall at 33°02'20"/111°24'19"</u>
MG	<u>Gila River (EDW)</u>	<u>Town of Florence WWTP outfall to Felix Road</u>
MG	<u>Gila River</u>	<u>Felix Road to the Gila River Indian Reservation boundary</u>
MG	<u>Gila River (EDW)</u>	<u>From the confluence with the Salt River to Gillespie Dam</u>
MG	<u>Gila River</u>	<u>Gillespie Dam to confluence with Painted Rock Dam</u>
MG	<u>Groom Creek</u>	<u>Headwaters to confluence with the Hassayampa River</u>
MG	<u>Hassayampa Lake</u>	<u>34°25'45"/112°25'33"</u>
MG	<u>Hassayampa River</u>	<u>Headwaters to confluence with Copper Creek</u>
MG	<u>Hassayampa River</u>	<u>Below confluence with Copper Creek to the confluence with Blind Indian Creek,</u>
MG	<u>Hassayampa River</u>	<u>Below confluence with Blind Indian Creek to the Buckeye Irrigation Company Canal</u>
MG	<u>Hassayampa River</u>	<u>Below Buckeye Irrigation Company canal to the Gila River</u>
MG	<u>Horsehief Lake</u>	<u>34°09'42"/112°17'57"</u>
MG	<u>Indian Bend Wash</u>	<u>Headwaters to confluence with the Salt River</u>
MG	<u>Indian Bend Wash Lakes</u>	<u>Scottsdale at 33°30'32"/111°54'24"</u>
MG	<u>Indian School Park Lake</u>	<u>Indian School Road &amp; Hayden Road, Scottsdale at 33°29'39"/111°54'37"</u>
MG	<u>Kiwanis Park Lake</u>	<u>6000 South Mill Avenue, Tempe at 33°22'27"/111°56'22"</u>
MG	<u>Lake Pleasant</u>	<u>33°53'46"/112°16'29"</u>
MG	<u>Lake Pleasant, Lower</u>	<u>33°50'32"/112°16'03"</u>
MG	<u>Lion Canyon</u>	<u>Headwaters to confluence with Weaver Creek</u>
MG	<u>Little Ash Creek</u>	<u>Headwaters to confluence with Ash Creek at</u>
MG	<u>Lynx Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°34'29"/112°21'07"</u>
MG	<u>Lynx Creek</u>	<u>Below confluence with unnamed tributary at 34°34'29"/112°21'07" to confluence with Agua Fria River</u>
MG	<u>Lynx Lake</u>	<u>34°31'07"/112°23'07"</u>
MG	<u>Martinez Canyon</u>	<u>Headwaters to confluence with Box Canyon</u>
MG	<u>Martinez Wash</u>	<u>Headwaters to confluence with the Hassayampa River</u>
MG	<u>McKellips Park Lake</u>	<u>Miller Road &amp; McKellips Road, Scottsdale at 33°27'14"/111°54'49"</u>
MG	<u>McMicken Wash (EDW)</u>	<u>City of Peoria Jomax WWTP outfall at 33°43'31"/112°20'15" to confluence with Agua Fria River</u>
MG	<u>Mineral Creek</u>	<u>Headwaters to 33°12'34"/110°59'58"</u>

MG	<u>Mineral Creek (diversion tunnel and lined channel)</u>	<u>33°12'24"/110°59'58" to 33°07'56"/110°58'34"</u>
MG	<u>Mineral Creek</u>	<u>End of diversion channel to confluence with Gila River</u>
MG	<u>Minnehaha Creek</u>	<u>Headwaters to confluence with the Hassayampa River</u>
MG	<u>New River</u>	<u>Headwaters to Interstate 17 at 33°54'19.5"/112°08'46"</u>
MG	<u>New River</u>	<u>Below Interstate 17 to confluence with Agua Fria River</u>
MG	<u>Painted Rock Reservoir</u>	<u>33°04'23"/113°00'38"</u>
MG	<u>Papago Park Ponds</u>	<u>Galvin Parkway, Phoenix at 33°27'15"/111°56'45"</u>
MG	<u>Papago Park South Pond</u>	<u>Curry Road, Tempe 33°26'22"/111°55'55"</u>
MG	<u>Perry Mesa Tank</u>	<u>34°11'03"/112°02'01"</u>
MG	<u>Phoenix Area Canals</u>	<u>Granite Reef Dam to all municipal WTP intakes</u>
MG	<u>Phoenix Area Canals</u>	<u>Below municipal WTP intakes and all other locations</u>
MG	<u>Picacho Reservoir</u>	<u>32°51'10"/111°28'25"</u>
MG	<u>Poland Creek</u>	<u>Headwaters to confluence with Lorena Gulch</u>
MG	<u>Poland Creek</u>	<u>Below confluence with Lorena Gulch to confluence with Black Canyon Creek</u>
MG	<u>Queen Creek</u>	<u>Headwaters to the Town of Superior WWTP outfall at 33°16'33"/111°07'44"</u>
MG	<u>Queen Creek (EDW)</u>	<u>Below Town of Superior WWTP outfall to confluence with Potts Canyon</u>
MG	<u>Queen Creek</u>	<u>Below Potts Canyon to ' Whitlow Dam</u>
MG	<u>Queen Creek</u>	<u>Below Whitlow Dam to confluence with Gila River</u>
MG	<u>Salt River</u>	<u>Verde River to 2 km below Granite Reef Dam</u>
MG	<u>Salt River</u>	<u>2 km below Granite Reef Dam to City of Mesa NW WRF outfall at 33°26'22"/111°53'14"</u>
MG	<u>Salt River (EDW)</u>	<u>City of Mesa NW WRF outfall to Tempe Town Lake</u>
MG	<u>Salt River</u>	<u>Below Tempe Town Lake to Interstate 10 bridge</u>
MG	<u>Salt River</u>	<u>Below Interstate 10 bridge to the City of Phoenix 23rd Avenue WWTP outfall at 33°24'44"/112°07'59"</u>
MG	<u>Salt River (EDW)</u>	<u>From City of Phoenix 23rd Avenue WWTP outfall to confluence with Gila River</u>
MG	<u>Siphon Draw (EDW)</u>	<u>Superstition Mountains CFD WWTP outfall at 33°21'40"/111°33'30" to 6 km downstream</u>
MG	<u>Sycamore Creek</u>	<u>Headwaters to confluence with Tank Canyon</u>
MG	<u>Sycamore Creek</u>	<u>Below confluence with Tank Canyon to confluence with Agua Fria River</u>
MG	<u>Tempe Town Lake</u>	<u>At Mill Avenue Bridge at 33°26'00"/111°56'26"</u>
MG	<u>The Lake Tank</u>	<u>32°54'14"/111°04'15"</u>
MG	<u>Tule Creek</u>	<u>Headwaters to confluence with the Agua Fria River</u>
MG	<u>Turkey Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°19'28"/112°21'33"</u>
MG	<u>Turkey Creek</u>	<u>Below confluence with unnamed tributary to confluence with Poland Creek</u>
MG	<u>Unnamed Wash (EDW)</u>	<u>Gila Bend WWTP outfall to confluence with the Gila River</u>
MG	<u>Unnamed Wash (EDW)</u>	<u>Luke Air Force Base WWTP outfall at 33°32'21"/112°19'15" to confluence with the Agua Fria River</u>
MG	<u>Unnamed Wash (EDW)</u>	<u>North Florence WWTP outfall at 33°03'50"/111°23'13" to confluence with Gila River</u>
MG	<u>Unnamed Wash (EDW)</u>	<u>Town of Prescott Valley WWTP outfall at 34°35'16"/112°16'18" to confluence with the Agua Fria River</u>
MG	<u>Unnamed Wash (EDW)</u>	<u>Town of Cave Creek WRF outfall at 33°48'02"/111°59'22" to confluence with Cave Creek</u>
MG	<u>Wagner Wash (EDW)</u>	<u>City of Buckeye Festival Ranch WRF outfall at 33°39'14"/112°40'18" to 2 km downstream</u>

MG	<u>Walnut Canyon Creek</u>	<u>Headwaters to confluence with the Gila River</u>
MG	<u>Weaver Creek</u>	<u>Headwaters to confluence with Antelope Creek, tributary to Martinez Wash</u>
MG	<u>White Canyon Creek</u>	<u>Headwaters to confluence with Walnut Canyon Creek</u>
MG	<u>Yavapai Lake (EDW)</u>	<u>Town of Prescott Valley WWTP outfall 002 at 34°36'07"/112°18'48" to Navajo Wash</u>
MG	<u>Arnett Creek</u>	<u>Headwaters to Queen Creek @ 33°16'43.24"/111°10'12.49"</u>
MG	<u>Cash Gulch</u>	<u>Headwaters to Jersey Gulch @ 34°25'31.39"/112°25'30.96"</u>
MG	<u>Eugene Gulch</u>	<u>Headwaters to Big Bug Creek @ 34°27'11.51"/112°18'30.95"</u>
MG	<u>Jersey Gulch</u>	<u>Headwaters to Hassayampa River @ 34°25'40.16"/112°25'45.64"</u>
MG	<u>Money Metals Trib</u>	<u>Headwaters to Unnamed Trib (UB1)</u>
MG	<u>Unnamed Trib (UQ2) to Queen Creek</u>	<u>Headwaters to Queen Creek @ 33°18'26.15"/111°04'19.3"</u>
MG	<u>Unnamed Trib (UQ3) to Queen Creek</u>	<u>Headwaters to Queen Creek @ 33°18'33.75"/111°04'02.61"</u>
MG	<u>Unnamed Trib to Big Bug Creek (UB1)</u>	<u>Headwaters to Big Bug Creek @ 34&lt;U+00B0&gt;25'38.86"/112&lt;U+00B0&gt;22'29.32"</u>
MG	<u>Unnamed Trib to Eugene Gulch</u>	<u>Headwaters to Eugene Gulch @ 34&lt;U+00B0&gt;27'34.6"/112&lt;U+00B0&gt;20'24.53"</u>
MG	<u>Unnamed Trib to Lynx Creek</u>	<u>Headwaters to Superior Mining Div. Outfall @ Lynx Creek @ 34°27'10.57"/112°23'14.22"</u>
MG	<u>Blue John Wash</u>	<u>Headwaters to Unnamed tributary to Lynx Creek @ 34&lt;U+00B0&gt;27'10.93"/112&lt;U+00B0&gt;23'24.61"</u>
MG	<u>Little Sycamore Creek</u>	<u>Headwaters to Sycamore Creek @ 34&lt;U+00B0&gt;21'39.13"/111&lt;U+00B0&gt;58'49.98"</u>
MG	<u>Little Wolf Creek</u>	<u>Headwaters to Wolf Creek @ 34&lt;U+00B0&gt;22'15.21"/112&lt;U+00B0&gt;19'17.11"</u>
MG	<u>Long Gulch</u>	<u>Headwaters to Indian Creek</u>
MG	<u>Pine Creek</u>	<u>Headwaters to Turkey Creek @ 34&lt;U+00B0&gt;19'42.86"/112&lt;U+00B0&gt;20'08.19"</u>
MG	<u>Seven Springs Wash</u>	<u>Headwaters to Unnamed trib @ 33&lt;U+00B0&gt;57'58.66"/111&lt;U+00B0&gt;51'52.07"</u>
MG	<u>Skunk Creek</u>	<u>Headwaters to New River @ 33&lt;U+00B0&gt;36'58.32"/112&lt;U+00B0&gt;14'40.21"</u>
MG	<u>Unnamed trib to Big Bug Creek</u>	<u>Headwaters to Big Bug Creek @ 34&lt;U+00B0&gt;26'18.63"/112&lt;U+00B0&gt;21'22.64"</u>
MG	<u>Unnamed trib to Turkey Creek</u>	<u>Headwaters to Turkey Creek @ 34&lt;U+00B0&gt;16'09.96"/112&lt;U+00B0&gt;12'16.31"</u>
MG	<u>Waterman Wash</u>	<u>West Prong Waterman Wash to Gila River @ 33&lt;U+00B0&gt;20'56.27"/112&lt;U+00B0&gt;31'54.32"</u>
MG	<u>Wolf Creek (WOL)</u>	<u>Headwaters to Turkey Creek @ 34&lt;U+00B0&gt;18'58.74"/112&lt;U+00B0&gt;17'15.9"</u>
MG	<u>Wood Camp Canyon</u>	<u>Headwaters to Whitford Canyon</u>
SC	<u>Agua Caliente Lake</u>	<u>12325 East Roger Road, Tucson 32°16'51"/ 110°43'52"</u>
SC	<u>Agua Caliente Wash</u>	<u>Headwaters to confluence with Soldier Trail</u>
SC	<u>Agua Caliente Wash</u>	<u>Below Soldier Trail to confluence with Tanque Verde Creek</u>
SC	<u>Aquirre Wash</u>	<u>From the Tohono O'odham Indian Reservation boundary to 32°28'38"/111°46'51"</u>
SC	<u>Alambre Wash</u>	<u>Headwaters to confluence with Brawley Wash</u>
SC	<u>Alamo Wash</u>	<u>Headwaters to confluence with Rillito Creek</u>
SC	<u>Altar Wash</u>	<u>Headwaters to confluence with Brawley Wash</u>
SC	<u>Alum Gulch</u>	<u>Headwaters to 31°28'20"/110°43'51"</u>
SC	<u>Alum Gulch</u>	<u>From 31°28'20"/110°43'51" to 31°29'17"/110°44'25"</u>
SC	<u>Alum Gulch</u>	<u>Below 31°29'17"/110°44'25" to confluence with Sonoita Creek</u>
SC	<u>Arivaca Creek</u>	<u>Headwaters to confluence with Altar Wash</u>
SC	<u>Arivaca Lake</u>	<u>31°31'52"/111°15'06"</u>
SC	<u>Atterbury Wash</u>	<u>Headwaters to confluence with Pantano Wash</u>
SC	<u>Bear Grass Tank</u>	<u>31°33'01"/111°11'03"</u>

SC	<u>Big Wash</u>	<u>Headwaters to confluence with Cañada del Oro</u>
SC	<u>Black Wash (EDW)</u>	<u>Pima County WWMD Avra Valley WWTP outfall at 32°09'58"/111°11'17" to confluence with Brawley Wash</u>
SC	<u>Bog Hole Tank</u>	<u>31°28'36"/110°37'09"</u>
SC	<u>Brawley Wash</u>	<u>Headwaters to confluence with Los Robles Wash</u>
SC	<u>California Gulch</u>	<u>Headwaters To U.S./Mexico border</u>
SC	<u>Cañada del Oro</u>	<u>Headwaters to State Route 77</u>
SC	<u>Cañada del Oro</u>	<u>Below State Route 77 to confluence with the Santa Cruz River</u>
SC	<u>Cienega Creek</u>	<u>Headwaters to confluence with Gardner Canyon</u>
SC	<u>Cienega Creek (OAW)</u>	<u>From confluence with Gardner Canyon to USGS gaging station (#09484600)</u>
SC	<u>Davidson Canyon</u>	<u>Headwaters to unnamed spring at 31°59'00"/ 110°38'49"</u>
SC	<u>Davidson Canyon (OAW)</u>	<u>From unnamed Spring to confluence with unnamed tributary at 31°59'09"/110°38'44"</u>
SC	<u>Davidson Canyon (OAW)</u>	<u>Below confluence with unnamed tributary to unnamed spring at 32°00'40"/110°38'36"</u>
SC	<u>Davidson Canyon (OAW)</u>	<u>From unnamed spring to confluence with Cienega Creek</u>
SC	<u>Empire Gulch</u>	<u>Headwaters to unnamed spring at 31°47'18"/ 110°38'17"</u>
SC	<u>Empire Gulch</u>	<u>From 31°47'18"/110°38'17" to 31°47'03"/110°37'35"</u>
SC	<u>Empire Gulch</u>	<u>From 31°47'03"/110°37'35" to 31°47'05"/ 110°36'58"</u>
SC	<u>Empire Gulch</u>	<u>From 31°47'05"/110°36'58" to confluence with Cienega Creek</u>
SC	<u>Flux Canyon</u>	<u>Headwaters to confluence with Alum Gulch</u>
SC	<u>Gardner Canyon Creek</u>	<u>Headwaters to confluence with Sawmill Canyon</u>
SC	<u>Gardner Canyon Creek</u>	<u>Below Sawmill Canyon to confluence with Cienega Creek</u>
SC	<u>Greene Wash</u>	<u>Santa Cruz River to the Tohono O'odham Indian Reservation boundary</u>
SC	<u>Greene Wash</u>	<u>Tohono O'odham Indian Reservation boundary to confluence with Santa Rosa Wash at 32°53'52"/ 111°56'48"</u>
SC	<u>Harshaw Creek</u>	<u>Headwaters to confluence with Sonoita Creek at</u>
SC	<u>Hit Tank</u>	<u>32°43'57"/111°03'18"</u>
SC	<u>Holden Canyon Creek</u>	<u>Headwaters to U.S./Mexico border</u>
SC	<u>Huachuca Tank</u>	<u>31°21'11"/110°30'18"</u>
SC	<u>Julian Wash</u>	<u>Headwaters to confluence with the Santa Cruz River</u>
SC	<u>Kennedy Lake</u>	<u>Mission Road &amp; Ajo Road, Tucson at 32°10'49'/ 111°00'27"</u>
SC	<u>Lakeside Lake</u>	<u>8300 East Stella Road, Tucson at 32°11'11"/ 110°49'00"</u>
SC	<u>Lemmon Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 32°23'48"/110°47'49"</u>
SC	<u>Lemmon Canyon Creek</u>	<u>Below unnamed tributary at 32°23'48"/110°47'49" to confluence with Sabino Canyon Creek</u>
SC	<u>Los Robles Wash</u>	<u>Headwaters to confluence with the Santa Cruz River</u>
SC	<u>Madera Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 31°43'42"/110°52'51"</u>
SC	<u>Madera Canyon Creek</u>	<u>Below unnamed tributary at 31°43'42"/110°52'51" to confluence with the Santa Cruz River</u>
SC	<u>Mattie Canyon</u>	<u>Headwaters to confluence with Cienega Creek</u>
SC	<u>Nogales Wash</u>	<u>Headwaters to confluence with Potrero Creek</u>
SC	<u>Oak Tree Canyon</u>	<u>Headwaters to confluence with Cienega Creek</u>
SC	<u>Palisade Canyon</u>	<u>Headwaters to confluence with unnamed tributary at 32°22'33"/110°45'31"</u>
SC	<u>Palisade Canyon</u>	<u>Below 32°22'33"/110°45'31" to unnamed tributary of Sabino Canyon</u>

SC	<u>Pantano Wash</u>	<u>Headwaters to confluence with Tanque Verde Creek</u>
SC	<u>Parker Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 31°24'17"/110°28'47"</u>
SC	<u>Parker Canyon Creek</u>	<u>Below unnamed tributary to U.S./Mexico border</u>
SC	<u>Parker Canyon Lake</u>	<u>31°25'35"/110°27'15"</u>
SC	<u>Patagonia Lake</u>	<u>31°29'56"/110°50'49"</u>
SC	<u>Peña Blanca Lake</u>	<u>31°24'15"/111°05'12"</u>
SC	<u>Potrero Creek</u>	<u>Headwaters to Interstate 19</u>
SC	<u>Potrero Creek</u>	<u>Below Interstate 19 to confluence with Santa Cruz River</u>
SC	<u>Puertocito Wash</u>	<u>Headwaters to confluence with Altar Wash</u>
SC	<u>Quitobaquito Spring</u>	<u>(Pond and Springs) 31°56'39"/113°01'06"</u>
SC	<u>Redrock Canyon Creek</u>	<u>Headwaters to confluence with Harshaw Creek</u>
SC	<u>Rillito Creek</u>	<u>Headwaters to confluence with the Santa Cruz River</u>
SC	<u>Romero Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 32°24'29"/110°50'39"</u>
SC	<u>Romero Canyon Creek</u>	<u>Below unnamed tributary to confluence with Sutherland Wash</u>
SC	<u>Rose Canyon Creek</u>	<u>Headwaters to confluence with Sycamore Canyon</u>
SC	<u>Rose Canyon Lake</u>	<u>32°23'13"/110°42'38"</u>
SC	<u>Ruby Lakes</u>	<u>31°26'29"/111°14'22"</u>
SC	<u>Sabino Canyon</u>	<u>Headwaters to 32°23'20"/110°47'06"</u>
SC	<u>Sabino Canyon</u>	<u>Below 32°23'20"/110°47'06" to confluence with Tanque Verde River</u>
SC	<u>Salero Ranch Tank</u>	<u>31°35'43"/110°53'25"</u>
SC	<u>Santa Cruz River</u>	<u>Headwaters to the at U.S./Mexico border</u>
SC	<u>Santa Cruz River</u>	<u>U.S./Mexico border to the Nogales International WWTP outfall at 31°27'25"/110°58'04"</u>
SC	<u>Santa Cruz River (EDW)</u>	<u>Nogales International WWTP outfall to the Josephine Canyon</u>
SC	<u>Santa Cruz River</u>	<u>Josephine Canyon to Agua Nueva WRF outfall at 32°17'04"/111°01'45"</u>
SC	<u>Santa Cruz River (EDW)</u>	<u>Agua Nueva WRF outfall to Baumgartner Road</u>
SC	<u>Santa Cruz River, West Branch</u>	<u>Headwaters to the confluence with Santa Cruz River</u>
SC	<u>Santa Cruz River</u>	<u>Baumgartner Road to the Ak Chin Indian Reservation boundary</u>
SC	<u>Santa Cruz Wash, North Branch</u>	<u>Headwaters to City of Casa Grande WRF outfall at 32°54'57"/111°47'13"</u>
SC	<u>Santa Cruz Wash, North Branch (EDW)</u>	<u>City of Casa Grande WRF outfall to 1 km downstream</u>
SC	<u>Santa Rosa Wash</u>	<u>Below Tohono O'odham Indian Reservation to the Ak Chin Indian Reservation</u>
SC	<u>Santa Rosa Wash (EDW)</u>	<u>Palo Verde Utilities CO-WRF outfall at 33°04'20"/ 112°01'47" to the Chin Indian Reservation</u>
SC	<u>Soldier Tank</u>	<u>32°25'34"/110°44'43"</u>
SC	<u>Sonoita Creek</u>	<u>Headwaters to the Town of Patagonia WWTP outfall at 31°32'25"/110°45'31"</u>
SC	<u>Sonoita Creek (EDW)</u>	<u>Town of Patagonia WWTP outfall to permanent groundwater upwelling point approximately 1600 feet downstream of outfall</u>
SC	<u>Sonoita Creek</u>	<u>Below 1600 feet downstream of Town of Patagonia WWTP outfall groundwater upwelling point to confluence with the Santa Cruz River</u>
SC	<u>Split Tank</u>	<u>31°28'11"/111°05'12"</u>
SC	<u>Sutherland Wash</u>	<u>Headwaters to confluence with Cañada del Oro</u>
SC	<u>Sycamore Canyon</u>	<u>Headwaters to 32°21'60" / 110°44'48"</u>
SC	<u>Sycamore Canyon</u>	<u>From 32°21'60" / 110°44'48" to Sycamore Reservoir</u>

SC	<u>Sycamore Canyon</u>	<u>Headwaters to the U.S./Mexico border</u>
SC	<u>Sycamore Reservoir</u>	<u>32°20'57"/110°47'38"</u>
SC	<u>Tanque Verde Creek</u>	<u>Headwaters to Houghton Road</u>
SC	<u>Tanque Verde Creek</u>	<u>Below Houghton Road to confluence with Rillito Creek</u>
SC	<u>Three R Canyon</u>	<u>Headwaters to Unnamed Trib to Three R Canyon at 31°28'26"/110°46'04"</u>
SC	<u>Three R Canyon</u>	<u>From 31°28'26"/110°46'04" to 31°28'28"/110°47'15" (Cox Gulch)</u>
SC	<u>Three R Canyon</u>	<u>From (Cox Gulch) 31°28'28"/110°47'15" to confluence with Sonoita Creek</u>
SC	<u>Tinaja Wash</u>	<u>Headwaters to confluence with the Santa Cruz River</u>
SC	<u>Unnamed Wash (EDW)</u>	<u>Oracle Sanitary District WWTP outfall at 32°36'54"/110°48'02" to 5 km downstream</u>
SC	<u>Unnamed Wash (EDW)</u>	<u>Arizona City Sanitary District WWTP outfall at 32°45'43"/111°44'24" to confluence with Santa Cruz Wash</u>
SC	<u>Unnamed Wash (EDW)</u>	<u>Saddlebrook WWTP outfall at 32°32'00"/110°53'01" to confluence with Cañada del Oro</u>
SC	<u>Vekol Wash</u>	<u>Headwater to Santa Cruz Wash: Those reaches not located on the Ak-Chin, Tohono O'odham and Gila River Indian Reservations</u>
SC	<u>Wakefield Canyon</u>	<u>Headwaters to confluence with unnamed tributary at 31°52'48"/110°26'27"</u>
SC	<u>Wakefield Canyon</u>	<u>Below confluence with unnamed tributary to confluence with Cienega Creek</u>
SC	<u>Wild Burro Canyon</u>	<u>Headwaters to confluence with unnamed tributary at 32°27'43"/111°05'47"</u>
SC	<u>Wild Burro Canyon</u>	<u>Below confluence with unnamed tributary to confluence with Santa Cruz River</u>
SC	<u>Cox Gulch</u>	<u>Headwaters to Three R Canyon @ 31°28'28.03"/110°47'14.65"</u>
SC	<u>Humboldt Canyon</u>	<u>Headwaters to Alum Gulch @ 31°28'25.84"/110°44'01.57"</u>
SC	<u>Unnamed Trib (Endless Mine Tributary) to Harshaw Creek</u>	<u>Headwaters to Harsahw Creek @ 31°26'12.3"/110°43'27.26"</u>
SC	<u>Unnamed Trib (UA2) to Alum Gulch</u>	<u>Headwaters to Alum Gulch @ 31°28'49.67"/110°44'12.86"</u>
SC	<u>Unnamed Trib to Cox Gulch</u>	<u>Headwaters to Cox Gulch @ 31°27'53.86"/110°46'51.29"</u>
SC	<u>Unnamed Trib to Three R Canyon</u>	<u>Headwaters to Three R Canyon @ 31°28'25.82"/110°46'04.11"</u>
SC	<u>Barrel Canyon</u>	<u>Headwaters to Confluence with Davidson Canyon</u>
SC	<u>Bear Canyon Creek</u>	<u>Headwaters to Sabino Creek @ 32&lt;U+00B0&gt;17'43.6"/110&lt;U+00B0&gt;48'28.36"</u>
SC	<u>Madrona Creek</u>	<u>Headwaters to Rincon Creek @ 32&lt;U+00B0&gt;08'00.94"/110&lt;U+00B0&gt;36'05.81"</u>
SC	<u>Peck Canyon Creek</u>	<u>Headwaters to Santa Cruz River @ 31&lt;U+00B0&gt;30'46.11"/111&lt;U+00B0&gt;00'44.1"</u>
SC	<u>Unnamed trib (UA3) to Alum Gulch</u>	<u>Headwaters to Alum Gulch @ 31&lt;U+00B0&gt;29'01.14"/110&lt;U+00B0&gt;44'15.67"</u>
SC	<u>Unnamed trib to Unnamed Trib to Harshaw Creek</u>	<u>Headwaters to Unnamed trib (UHA) to Harshaw Creek</u>
SP	<u>Abbot Canyon</u>	<u>Headwaters to confluence with Whitewater Draw</u>
SP	<u>Aravaipa Creek</u>	<u>Headwaters to confluence with Stowe Gulch</u>
SP	<u>Aravaipa Creek (OAW)</u>	<u>Stowe Gulch to downstream boundary of Aravaipa Canyon Wilderness Area</u>
SP	<u>Aravaipa Creek</u>	<u>Below downstream boundary of Aravaipa Canyon Wilderness Area to confluence with the San Pedro River</u>
SP	<u>Ash Creek</u>	<u>Headwaters to 31°50'28"/109°40'04"</u>
SP	<u>Babocomari River</u>	<u>Headwaters to confluence with the San Pedro River</u>
SP	<u>Bass Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 32°26'06"/110°13'22"</u>
SP	<u>Bass Canyon Creek</u>	<u>Below confluence with unnamed tributary to confluence with Hot Springs Canyon Creek</u>
SP	<u>Bass Canyon Tank</u>	<u>32°24'00"/110°13'00"</u>
SP	<u>Bear Creek</u>	<u>Headwaters to U.S./Mexico border</u>

SP	<u>Blacktail Pond</u>	Fort Huachuca Military Reservation at 31°31'04"/110°24'47", headwater lake in Blacktail Canyon
SP	<u>Black Draw</u>	Headwaters to the U.S./Mexico border
SP	<u>Booger Canyon</u>	Headwaters to confluence with Aravaipa Creek
SP	<u>Buck Canyon</u>	Headwaters to confluence with Buck Creek Tank
SP	<u>Buck Canyon</u>	Below Buck Creek Tank to confluence with Dry Creek
SP	<u>Buehman Canyon Creek (OAW)</u>	Headwaters to confluence with unnamed tributary at 32°24'54"/110°32'10"
SP	<u>Buehman Canyon Creek</u>	Below confluence with unnamed tributary to confluence with San Pedro River
SP	<u>Bullock Canyon</u>	Headwaters to confluence with Buehman Canyon
SP	<u>Carr Canyon Creek</u>	Headwaters to confluence with unnamed tributary at 31°27'01"/110°15'48"
SP	<u>Carr Canyon Creek</u>	Below confluence with unnamed tributary to confluence with the San Pedro River
SP	<u>Copper Creek</u>	Headwaters to confluence with Prospect Canyon
SP	<u>Copper Creek</u>	Below confluence with Prospect Canyon to confluence with the San Pedro River
SP	<u>Deer Creek</u>	Headwaters to confluence with unnamed tributary at 32°59'57"/110°20'11"
SP	<u>Deer Creek</u>	Below confluence with unnamed tributary to confluence with Aravaipa Creek
SP	<u>Dixie Canyon</u>	Headwaters to confluence with Mexican Canyon
SP	<u>Double R Canyon Creek</u>	Headwaters to confluence with Bass Canyon
SP	<u>Dry Canyon</u>	Headwaters to confluence with Whitewater draw
SP	<u>East Gravel Pit Pond</u>	Fort Huachuca Military Reservation at 31°30'54"/ 110°19'44"
SP	<u>Espiritu Canyon Creek</u>	Headwaters to confluence with Soza Wash
SP	<u>Fourmile Creek</u>	Headwaters to confluence with Aravaipa Creek
SP	<u>Fourmile Canyon, Left Prong</u>	Headwaters to confluence with unnamed tributary at 32°43'15"/110°23'46"
SP	<u>Fourmile Canyon, Left Prong</u>	Below confluence with unnamed tributary to confluence with Fourmile Canyon Creek
SP	<u>Fourmile Canyon, Right Prong</u>	Headwaters to confluence with Fourmile Canyon
SP	<u>Gadwell Canyon</u>	Headwaters to confluence with Whitewater Draw
SP	<u>Garden Canyon Creek</u>	Headwaters to confluence with unnamed tributary at 31°29'01"/110°19'44"
SP	<u>Garden Canyon Creek</u>	Below confluence with unnamed tributary to confluence with the San Pedro River
SP	<u>Glance Creek</u>	Headwaters to confluence with Whitewater Draw
SP	<u>Gold Gulch</u>	Headwaters to U.S./Mexico border
SP	<u>Gravel Pit Pond</u>	Fort Huachuca Military Reservation at 31°30'52"/ 110°19'49"
SP	<u>Greenbush Draw</u>	From U.S./Mexico border to confluence with San Pedro River
SP	<u>Hidden Pond</u>	Fort Huachuca Military Reservation at 32°30'30"/ 109°22'17"
SP	<u>Horse Camp Canyon</u>	Headwaters to confluence with Aravaipa Creek
SP	<u>Hot Springs Canyon Creek</u>	Headwaters to confluence with the San Pedro River
SP	<u>Johnson Canyon</u>	Headwaters to Whitewater Draw at 31°32'46"/ 109°43'32"
SP	<u>Leslie Canyon Creek</u>	Headwaters to confluence with Whitewater Draw
SP	<u>Lower Garden Canyon Pond</u>	Fort Huachuca Military Reservation at 31°29'39"/ 110°18'34"
SP	<u>Mexican Canyon</u>	Headwaters to confluence with Dixie Canyon
SP	<u>Miller Canyon</u>	Headwaters to Broken Arrow Ranch Road at 31°25'35"/110°15'04"
SP	<u>Miller Canyon</u>	Below Broken Arrow Ranch Road to confluence with the San Pedro River
SP	<u>Mountain View Golf Course Pond</u>	Fort Huachuca Military Reservation at 31°32'14"/ 110°18'52"

SP	<u>Mule Gulch</u>	<u>Headwaters to the Lavender Pit at 31°26'11"/ 109°54'02"</u>
SP	<u>Mule Gulch</u>	<u>The Lavender Pit to the Highway 80 bridge at 31°26'30"/109°49'28"</u>
SP	<u>Mule Gulch</u>	<u>Below the Highway 80 bridge to confluence with Whitewater Draw</u>
SP	<u>Oak Grove Canyon</u>	<u>Headwaters to confluence with Turkey Creek</u>
SP	<u>Officers Club Pond</u>	<u>Fort Huachuca Military Reservation at 31°32'51"/ 110°21'37"</u>
SP	<u>Paige Canyon Creek</u>	<u>Headwaters to confluence with the San Pedro River</u>
SP	<u>Parsons Canyon Creek</u>	<u>Headwaters to confluence with Aravaipa Creek</u>
SP	<u>Ramsey Canyon Creek</u>	<u>Headwaters to Forest Service Road #110 at 31°27'44"/110°17'30"</u>
SP	<u>Ramsey Canyon Creek</u>	<u>Below Forest Service Road #110 to confluence with Carr Wash</u>
SP	<u>Rattlesnake Creek</u>	<u>Headwaters to confluence with Brush Canyon</u>
SP	<u>Rattlesnake Creek</u>	<u>Below confluence with Brush Canyon to confluence with Aravaipa Creek</u>
SP	<u>Redfield Canyon</u>	<u>Headwaters to confluence with unnamed tributary at 32°33'40"/110°18'42"</u>
SP	<u>Redfield Canyon</u>	<u>Below confluence with unnamed tributary to confluence with the San Pedro River</u>
SP	<u>Rucker Canyon</u>	<u>Headwaters to confluence with Whitewater Draw</u>
SP	<u>Rucker Canyon Lake</u>	<u>31°46'46"/109°18'30"</u>
SP	<u>San Pedro River</u>	<u>U.S./ Mexico Border to Buehman Canyon</u>
SP	<u>San Pedro River</u>	<u>From Buehman canyon to confluence with the Gila River</u>
SP	<u>Soto Canyon</u>	<u>Headwaters to confluence with Dixie Canyon</u>
SP	<u>Swamp Springs Canyon</u>	<u>Headwaters to confluence with Redfield Canyon</u>
SP	<u>Sycamore Pond I</u>	<u>Fort Huachuca Military Reservation at 31°35'12"/ 110°26'11"</u>
SP	<u>Sycamore Pond II</u>	<u>Fort Huachuca Military Reservation at 31°34'39"/ 110°26'10"</u>
SP	<u>Turkey Creek</u>	<u>Headwaters to confluence with Aravaipa Creek</u>
SP	<u>Unnamed Wash (EDW)</u>	<u>Mt. Lemmon WWTP outfall at 32°26'51"/110°45'08" to 0.25 km downstream</u>
SP	<u>Virgus Canyon</u>	<u>Headwaters to confluence with Aravaipa Creek</u>
SP	<u>Walnut Gulch</u>	<u>Headwaters to Tombstone WWTP outfall at 31°43'47"/110°04'06"</u>
SP	<u>Walnut Gulch (EDW)</u>	<u>Tombstone WWTP outfall to the confluence with Tombstone Wash</u>
SP	<u>Walnut Gulch</u>	<u>Tombstone Wash to confluence with San Pedro River</u>
SP	<u>Whitewater Draw</u>	<u>Headwaters to confluence with unnamed tributary at 31°20'36"/109°43'48"</u>
SP	<u>Whitewater Draw</u>	<u>Below confluence with unnamed tributary to U.S./ Mexico border</u>
SP	<u>Woodcutters Pond</u>	<u>Fort Huachuca Military Reservation at 31°30'09"/ 110°20'12"</u>
SP	<u>Brewery Gulch</u>	<u>Headwaters to Mule Gulch @ 31°26'27.88"/109°54'48.1"</u>
SP	<u>Curry Draw</u>	<u>Headwaters to San Pedro River</u>
SP	<u>Montezuma Canyon</u>	<u>Headwaters to Mexica Border @ 31&lt;U+00B0&gt;20'01.87"/110&lt;U+00B0&gt;13'40.97"</u>
SR	<u>Ackre Lake</u>	<u>33°37'01"/109°20'40"</u>
SR	<u>Apache Lake</u>	<u>33°37'23"/111°12'26"</u>
SR	<u>Barnhard Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°05'37"/111°26'40"</u>
SR	<u>Barnhardt Creek</u>	<u>Below confluence with unnamed tributary to confluence with Rye Creek</u>
SR	<u>Basin Lake</u>	<u>33°55'00"/109°26'09"</u>
SR	<u>Bear Creek</u>	<u>Headwaters to confluence with the Black River</u>
SR	<u>Bear Wallow Creek (OAW)</u>	<u>Headwaters to confluence with the Black River</u>
SR	<u>Bear Wallow Creek, North Fork (OAW)</u>	<u>Headwaters to confluence with the Bear Wallow Creek</u>

SR	<u>Bear Wallow Creek, South Fork (OAW)</u>	<u>Headwaters to confluence with the Bear Wallow Creek</u>
SR	<u>Beaver Creek</u>	<u>Headwaters to confluence with Black River</u>
SR	<u>Big Lake</u>	<u>33°52'36"/109°25'33"</u>
SR	<u>Black River</u>	<u>Headwaters to confluence with Salt River</u>
SR	<u>Black River, East Fork</u>	<u>From 33°51'19"/109°18'54" to confluence with the Black River</u>
SR	<u>Black River, North Fork of East Fork</u>	<u>Headwaters to confluence with Boneyard Creek</u>
SR	<u>Black River, West Fork</u>	<u>Headwaters to confluence with the Black River</u>
SR	<u>Bloody Tanks Wash</u>	<u>Headwaters to Schultze Ranch Road</u>
SR	<u>Bloody Tanks Wash</u>	<u>Schultze Ranch Road to confluence with Miami Wash</u>
SR	<u>Boggy Creek</u>	<u>Headwaters to confluence with Centerfire Creek</u>
SR	<u>Boneyard Creek</u>	<u>Headwaters to confluence with Black River, East Fork</u>
SR	<u>Boulder Creek</u>	<u>Headwaters to confluence with LaBarge Creek</u>
SR	<u>Campaign Creek</u>	<u>Headwaters to Roosevelt Lake</u>
SR	<u>Canyon Creek</u>	<u>Headwaters to the White Mountain Apache Reservation boundary</u>
SR	<u>Canyon Lake</u>	<u>33°32'44"/111°26'19"</u>
SR	<u>Centerfire Creek</u>	<u>Headwaters to confluence with the Black River</u>
SR	<u>Chambers Draw Creek</u>	<u>Headwaters to confluence with the North Fork of the East Fork of Black River</u>
SR	<u>Cherry Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°05'09"/110°56'07"</u>
SR	<u>Cherry Creek</u>	<u>Below unnamed tributary to confluence with the Salt River</u>
SR	<u>Christopher Creek</u>	<u>Headwaters to confluence with Tonto Creek</u>
SR	<u>Cold Spring Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 33°49'50"/110°52'58"</u>
SR	<u>Cold Spring Canyon Creek</u>	<u>Below confluence with unnamed tributary to confluence with Cherry Creek</u>
SR	<u>Conklin Creek</u>	<u>Headwaters to confluence with the Black River</u>
SR	<u>Coon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 33°46'41"/110°54'26"</u>
SR	<u>Coon Creek</u>	<u>Below confluence with unnamed tributary to confluence with Salt River</u>
SR	<u>Corduroy Creek</u>	<u>Headwaters to confluence with Fish Creek</u>
SR	<u>Coyote Creek</u>	<u>Headwaters to confluence with the Black River, East Fork</u>
SR	<u>Crescent Lake</u>	<u>33°54'38"/109°25'18"</u>
SR	<u>Deer Creek</u>	<u>Headwaters to confluence with the Black River, East Fork</u>
SR	<u>Del Shay Creek</u>	<u>Headwaters to confluence with Gun Creek</u>
SR	<u>Devils Chasm Creek</u>	<u>Headwaters to confluence with unnamed tributary at 33°48'46" /110°52'35"</u>
SR	<u>Devils Chasm Creek</u>	<u>Below confluence with unnamed tributary to confluence with Cherry Creek</u>
SR	<u>Dipping Vat Reservoir</u>	<u>33°55'47"/109°25'31"</u>
SR	<u>Double Cienega Creek</u>	<u>Headwaters to confluence with Fish Creek</u>
SR	<u>Fish Creek</u>	<u>Headwaters to confluence with the Black River</u>
SR	<u>Fish Creek</u>	<u>Headwaters to confluence with the Salt River</u>
SR	<u>Gold Creek</u>	<u>Headwaters to confluence with unnamed tributary at 33°59'47"/111°25'10"</u>
SR	<u>Gold Creek</u>	<u>Below confluence with unnamed tributary to confluence with Tonto Creek</u>
SR	<u>Gordon Canyon Creek</u>	<u>Headwaters to confluence with Hog Canyon</u>
SR	<u>Gordon Canyon Creek</u>	<u>Below confluence with Hog Canyon to confluence with Haigler Creek</u>
SR	<u>Greenback Creek</u>	<u>Headwaters to confluence with Tonto Creek</u>

SR	<u>Haigler Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°12'23"/111°00'15"</u>
SR	<u>Haigler Creek</u>	<u>Below confluence with unnamed tributary to confluence with Tonto Creek</u>
SR	<u>Hannagan Creek</u>	<u>Headwaters to confluence with Beaver Creek</u>
SR	<u>Hay Creek (OAW)</u>	<u>Headwaters to confluence with the Black River, West Fork</u>
SR	<u>Home Creek</u>	<u>Headwaters to confluence with the Black River, West Fork</u>
SR	<u>Horse Creek</u>	<u>Headwaters to confluence with the Black River, West Fork</u>
SR	<u>Horse Camp Creek</u>	<u>Headwaters to confluence with unnamed tributary at 33°54'00"/110°50'07"</u>
SR	<u>Horse Camp Creek</u>	<u>Below confluence with unnamed tributary to confluence with Cherry Creek</u>
SR	<u>Horton Creek</u>	<u>Headwaters to confluence with Tonto Creek</u>
SR	<u>Houston Creek</u>	<u>Headwaters to confluence with Tonto Creek</u>
SR	<u>Hunter Creek</u>	<u>Headwaters to confluence with Christopher Creek</u>
SR	<u>LaBarge Creek</u>	<u>Headwaters to Canyon Lake</u>
SR	<u>Lake Sierra Blanca</u>	<u>33°52'25"/109°16'05"</u>
SR	<u>Miami Wash</u>	<u>Headwaters to confluence with Pinal Creek</u>
SR	<u>Mule Creek</u>	<u>Headwaters to confluence with Canyon Creek</u>
SR	<u>Open Draw Creek</u>	<u>Headwaters to confluence with the East Fork of Black River</u>
SR	<u>P B Creek</u>	<u>Headwaters to Forest Service Road #203 at 33°57'08"/110°56'12"</u>
SR	<u>P B Creek</u>	<u>Below Forest Service Road #203 to Cherry Creek</u>
SR	<u>Pinal Creek</u>	<u>Headwaters to confluence with unnamed EDW wash (Globe WWTP) at 33°25'29"/110°48'20"</u>
SR	<u>Pinal Creek (EDW)</u>	<u>Confluence with unnamed EDW wash (Globe WWTP) to 33°26'55"/110°49'25"</u>
SR	<u>Pinal Creek</u>	<u>From 33°26'55"/110°49'25" to Lower Pinal Creek water treatment plant outfall #001 at 33°31'04"/110°51'55"</u>
SR	<u>Pinal Creek</u>	<u>From Lower Pinal Creek WTP outfall # to See Ranch Crossing at 33°32'25"/110°52'28"</u>
SR	<u>Pinal Creek</u>	<u>From See Ranch Crossing to confluence with unnamed tributary at 33°35'28"/110°54'31"</u>
SR	<u>Pinal Creek</u>	<u>From unnamed tributary to confluence with Salt River</u>
SR	<u>Pine Creek</u>	<u>Headwaters to confluence with the Salt River</u>
SR	<u>Pinto Creek</u>	<u>Headwaters to confluence with unnamed tributary at 33°19'27"/110°54'58"</u>
SR	<u>Pinto Creek</u>	<u>Below confluence with unnamed tributary to Roosevelt Lake</u>
SR	<u>Pole Corral Lake</u>	<u>33°30'38"/110°00'15"</u>
SR	<u>Pueblo Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 33°50'23"/110°51'37"</u>
SR	<u>Pueblo Canyon Creek</u>	<u>Below confluence with unnamed tributary to confluence with Cherry Creek</u>
SR	<u>Reevis Creek</u>	<u>Headwaters to confluence with Pine Creek</u>
SR	<u>Reservation Creek</u>	<u>Headwaters to confluence with the Black River</u>
SR	<u>Reynolds Creek</u>	<u>Headwaters to confluence with Workman Creek</u>
SR	<u>Roosevelt Lake</u>	<u>33°52'17"/111°00'17"</u>
SR	<u>Russell Gulch</u>	<u>From Headwaters to confluence with Miami Wash</u>
SR	<u>Rye Creek</u>	<u>Headwaters to confluence with Tonto Creek</u>
SR	<u>Saguaro Lake</u>	<u>33°33'44"/111°30'55"</u>
SR	<u>Salome Creek</u>	<u>Headwaters to confluence with the Salt River</u>
SR	<u>Salt House Lake</u>	<u>33°57'04"/109°20'11"</u>
SR	<u>Salt River</u>	<u>White Mountain Apache Reservation Boundary at 33°48'52"/110°31'33" to Roosevelt Lake</u>

SR	<u>Salt River</u>	<u>Theodore Roosevelt Dam to 2 km below Granite Reef Dam</u>
SR	<u>Slate Creek</u>	<u>Headwaters to confluence with Tonto Creek</u>
SR	<u>Snake Creek (OAW)</u>	<u>Headwaters to confluence with the Black River</u>
SR	<u>Spring Creek</u>	<u>Headwaters to confluence with Tonto Creek</u>
SR	<u>Stinky Creek (OAW)</u>	<u>Headwaters to confluence with the Black River, West Fork</u>
SR	<u>Thomas Creek</u>	<u>Headwaters to confluence with Beaver Creek</u>
SR	<u>Thompson Creek</u>	<u>Headwaters to confluence with the West Fork of the Black River</u>
SR	<u>Tonto Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°18'11"/111°04'18"</u>
SR	<u>Tonto Creek</u>	<u>Below confluence with unnamed tributary to Roosevelt Lake</u>
SR	<u>Turkey Creek</u>	<u>Headwaters to confluence with Rock Creek</u>
SR	<u>Wildcat Creek</u>	<u>Headwaters to confluence with Centerfire Creek</u>
SR	<u>Willow Creek</u>	<u>Headwaters to confluence with Beaver Creek</u>
SR	<u>Workman Creek</u>	<u>Headwaters to confluence with Reynolds Creek</u>
SR	<u>Workman Creek</u>	<u>Below confluence with Reynolds Creek to confluence with Salome Creek</u>
SR	<u>Five Point Mountain Tributary</u>	<u>Headwaters to Pinto Creek @ 33°22'25.93"/110°58'14"</u>
SR	<u>Gibson Mine Tributary</u>	<u>Headwaters to Pinto Creek @ 33°20'48.99"/110°56'42.31"</u>
SR	<u>Big Canyon</u>	<u>Headwaters to Tonto Creek</u>
SR	<u>Cottonwood Gulch</u>	<u>Headwaters to Pinto Creek @ 33&lt;U+00B0&gt;22'50.81"/110&lt;U+00B0&gt;58'40.67"</u>
SR	<u>Crouch Creek</u>	<u>Headwaters to Cherry Creek @ 34?02'55.6"/110?53'42.78"</u>
SR	<u>Deer Creek (D4E)</u>	<u>Headwaters to Rye Creek @ 34&lt;U+00B0&gt;04'30.74"/111&lt;U+00B0&gt;20'16.81"</u>
SR	<u>Gold Gulch</u>	<u>Headwaters to Pinto Creek @ 33&lt;U+00B0&gt;25'35.87"/111&lt;U+00B0&gt;00'15.31"</u>
SR	<u>Green Valley Creek</u>	<u>Headwaters to Tonto Creek @ 34&lt;U+00B0&gt;08'52.25"/111&lt;U+00B0&gt;12'16.64"</u>
SR	<u>Hinton Creek</u>	<u>Headwaters to Cherry Creek @ 33&lt;U+00B0&gt;52'05.33"/110&lt;U+00B0&gt;52'17.99"</u>
SR	<u>Unnamed trib to Black River East Fork</u>	<u>Headwaters to Black River East Fork</u>
SR	<u>Unnamed trib to Black River NFork Efork</u>	<u>Headwaters to Black River NF of EF</u>
SR	<u>Unnamed trib to Double Cieneqa Creek</u>	<u>Headwaters to Double Cieneqa Creek</u>
SR	<u>Unnamed trib to UEF</u>	<u>Headwaters to Unnamed Trib to Black River East Fork (UEF)</u>
SR	<u>West Fork Pinto Creek</u>	<u>Headwaters to Pinto Creek @ 33&lt;U+00B0&gt;27'32.09"/111&lt;U+00B0&gt;00'20.07"</u>
UG	<u>Apache Creek</u>	<u>Headwaters to confluence with the Gila River</u>
UG	<u>Ash Creek</u>	<u>Headwaters to confluence with unnamed tributary at 32°46'15"/109°51'45"</u>
UG	<u>Ash Creek</u>	<u>Below confluence with unnamed tributary to confluence with the Gila River</u>
UG	<u>Bennett Wash</u>	<u>Headwaters to the Gila River</u>
UG	<u>Bitter Creek</u>	<u>Headwaters to confluence with the Gila River</u>
UG	<u>Blue River</u>	<u>Headwaters to confluence with Strayhorse Creek at 33°29'02"/109°12'14"</u>
UG	<u>Blue River</u>	<u>Below confluence with Strayhorse Creek to confluence with San Francisco River</u>
UG	<u>Bonita Creek (OAW)</u>	<u>San Carlos Indian Reservation boundary to confluence with the Gila River</u>
UG	<u>Buckelew Creek</u>	<u>Headwaters to confluence with Castle Creek</u>
UG	<u>Campbell Blue Creek</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Castle Creek</u>	<u>Headwaters to confluence with Campbell Blue Creek</u>
UG	<u>Cave Creek (OAW)</u>	<u>Headwaters to confluence with South Fork Cave Creek</u>
UG	<u>Cave Creek (OAW)</u>	<u>Below confluence with South Fork Cave Creek to Coronado National Forest boundary</u>

UG	<u>Cave Creek</u>	<u>Below Coronado National Forest boundary to New Mexico border</u>
UG	<u>Cave Creek, South Fork</u>	<u>Headwaters to confluence with Cave Creek</u>
UG	<u>Chase Creek</u>	<u>Headwaters to the Phelps-Dodge Morenci Mine</u>
UG	<u>Chase Creek</u>	<u>Below the Phelps-Dodge Morenci Mine to confluence with San Francisco River</u>
UG	<u>Chitty Canyon Creek</u>	<u>Headwaters to confluence with Salt House Creek</u>
UG	<u>Cima Creek</u>	<u>Headwaters to confluence with Cave Creek</u>
UG	<u>Cluff Reservoir #1</u>	<u>32°48'55"/109°50'46"</u>
UG	<u>Cluff Reservoir #3</u>	<u>32°48'21"/109°51'46"</u>
UG	<u>Coleman Creek</u>	<u>Headwaters to confluence with Campbell Blue Creek</u>
UG	<u>Dankworth Lake</u>	<u>32°43'13"/109°42'17"</u>
UG	<u>Deadman Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 32°43'50"/109°49'03"</u>
UG	<u>Deadman Canyon Creek</u>	<u>Below confluence with unnamed tributary to confluence with Graveyard Wash</u>
UG	<u>Eagle Creek</u>	<u>Headwaters to confluence with unnamed tributary at 33°22'32"/109°29'43"</u>
UG	<u>Eagle Creek</u>	<u>Below confluence with unnamed tributary to confluence with the Gila River</u>
UG	<u>East Eagle Creek</u>	<u>Headwaters to confluence with Eagle Creek</u>
UG	<u>East Turkey Creek</u>	<u>Headwaters to confluence with unnamed tributary at 31°58'22"/109°12'20"</u>
UG	<u>East Turkey Creek</u>	<u>Below confluence with unnamed tributary to terminus near San Simon River</u>
UG	<u>East Whitetail</u>	<u>Headwaters to terminus near San Simon River</u>
UG	<u>Emigrant Canyon</u>	<u>Headwaters to terminus near San Simon River</u>
UG	<u>Evans Pond #1</u>	<u>32°49'19"/109°51'12"</u>
UG	<u>Evans Pond #2</u>	<u>32°49'14"/109°51'09"</u>
UG	<u>Fishhook Creek</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Foote Creek</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Frye Canyon Creek</u>	<u>Headwaters to Frye Mesa Reservoir</u>
UG	<u>Frye Canyon Creek</u>	<u>Frye Mesa reservoir to terminus at Highline Canal.</u>
UG	<u>Frye Mesa Reservoir</u>	<u>32°45'14"/109°50'02"</u>
UG	<u>Gibson Creek</u>	<u>Headwaters to confluence with Marijilda Creek</u>
UG	<u>Gila River</u>	<u>New Mexico border to the San Carlos Indian Reservation boundary</u>
UG	<u>Grant Creek</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Judd Lake</u>	<u>33°51'15"/109°09'35"</u>
UG	<u>K P Creek (OAW)</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Lanphier Canyon Creek</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Little Blue Creek</u>	<u>Headwaters to confluence with Dutch Blue Creek</u>
UG	<u>Little Blue Creek</u>	<u>Below confluence with Dutch Blue Creek to confluence with Blue Creek</u>
UG	<u>Little Creek</u>	<u>Headwaters to confluence with the San Francisco River</u>
UG	<u>George's Tank</u>	<u>33°51'24"/109°08'30"</u>
UG	<u>Luna Lake</u>	<u>33°49'50"/109°05'06"</u>
UG	<u>Marijilda Creek</u>	<u>Headwaters to confluence with Gibson Creek</u>
UG	<u>Marijilda Creek</u>	<u>Below confluence with Gibson Creek to confluence with Stockton Wash</u>
UG	<u>Markham Creek</u>	<u>Headwaters to confluence with the Gila River</u>

UG	<u>Pigeon Creek</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Raspberry Creek</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Roper Lake</u>	<u>32°45'23"/109°42'14"</u>
UG	<u>San Francisco River</u>	<u>Headwaters to the New Mexico border</u>
UG	<u>San Francisco River</u>	<u>New Mexico border to confluence with the Gila River</u>
UG	<u>San Simon River</u>	<u>Headwaters to confluence with the Gila River</u>
UG	<u>Sheep Tank</u>	<u>32°46'14"/109°48'09"</u>
UG	<u>Smith Pond</u>	<u>32°49'15"/109°50'36"</u>
UG	<u>Squaw Creek</u>	<u>Headwaters to confluence with Thomas Creek</u>
UG	<u>Stone Creek</u>	<u>Headwaters to confluence with the San Francisco River</u>
UG	<u>Strayhorse Creek</u>	<u>Headwaters to confluence with the Blue River</u>
UG	<u>Thomas Creek</u>	<u>Headwaters to confluence with Rousensock Creek</u>
UG	<u>Thomas Creek</u>	<u>Below confluence with Rousensock Creek to confluence with Blue River</u>
UG	<u>Tinny Pond</u>	<u>33°47'49"/109°04'27"</u>
UG	<u>Turkey Creek</u>	<u>Headwaters to confluence with Campbell Blue Creek</u>
UG	<u>Bob Thomas Creek</u>	<u>Headwaters to Stone Creek @ 33&lt;U+00B0&gt;51'51.93"/109&lt;U+00B0&gt;03'42.52"</u>
UG	<u>Lengthy Canyon</u>	<u>Headwaters to Strayhorse Creek</u>
UG	<u>North Fork Cace Creek</u>	<u>Headwatersto Cace Creek @ 31&lt;U+00B0&gt;52'56.63"/109&lt;U+00B0&gt;12'19.75"</u>
UG	<u>Unnamed trib to Cave Creek</u>	<u>Headwaters to Cave Creek</u>
UG	<u>Unnamed trib to Little Strayhorse Creek</u>	<u>Headwaters to Little Strayhorse Creek</u>
VR	<u>American Gulch</u>	<u>Headwaters to the Northern Gila County Sanitary District WWTP outfall at 34°14'02"/111°22'14"</u>
VR	<u>American Gulch (EDW)</u>	<u>Below Northern Gila County Sanitary District WWTP outfall to confluence with the East Verde River</u>
VR	<u>Apache Creek</u>	<u>Headwaters to confluence with Walnut Creek</u>
VR	<u>Ashbrook Wash</u>	<u>Headwaters to the Fort McDowell Indian Reservation boundary</u>
VR	<u>Aspen Creek</u>	<u>Headwaters to confluence with Granite Creek</u>
VR	<u>Bar Cross Tank</u>	<u>35°00'41"/112°05'39"</u>
VR	<u>Barrata Tank</u>	<u>35°02'43"/112°24'21"</u>
VR	<u>Bartlett Lake</u>	<u>33°49'52"/111°37'44"</u>
VR	<u>Beaver Creek</u>	<u>Headwaters to confluence with the Verde River</u>
VR	<u>Big Chino Wash</u>	<u>Headwaters to confluence with Sullivan Lake</u>
VR	<u>Bitter Creek</u>	<u>Headwaters to the Jerome WWTP outfall at 34°45'12"/112°06'24"</u>
VR	<u>Bitter Creek (EDW)</u>	<u>Jerome WWTP outfall to the Yavapai Apache Indian Reservation boundary</u>
VR	<u>Bitter Creek</u>	<u>Below the Yavapai Apache Indian Reservation boundary to confluence with the Verde River</u>
VR	<u>Black Canyon Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°39'20"/112°05'06"</u>
VR	<u>Black Canyon Creek</u>	<u>Below confluence with unnamed tributary to confluence with the Verde River</u>
VR	<u>Bonita Creek</u>	<u>Headwaters to confluence with Ellison Creek</u>
VR	<u>Bray Creek</u>	<u>Headwaters to confluence with Webber Creek</u>
VR	<u>Camp Creek</u>	<u>Headwaters to confluence with the Sycamore Creek</u>
VR	<u>Cereus Wash</u>	<u>Headwaters to the Fort McDowell Indian Reservation boundary</u>
VR	<u>Chase Creek</u>	<u>Headwaters to confluence with the East Verde River</u>

VR	<u>Clover Creek</u>	<u>Headwaters to confluence with Headwaters of West Clear Creek</u>
VR	<u>Coffee Creek</u>	<u>Headwaters to confluence with Spring Creek</u>
VR	<u>Colony Wash</u>	<u>Headwaters to the Fort McDowell Indian Reservation boundary</u>
VR	<u>Dead Horse Lake</u>	<u>34°45'08"/112°00'42"</u>
VR	<u>Deadman Creek</u>	<u>Headwaters to Horseshoe Reservoir</u>
VR	<u>Del Monte Gulch</u>	<u>Headwaters to confluence with City of Cottonwood WWTP outfall 002 at 34°43'57"/112°02'46"</u>
VR	<u>Del Monte Gulch (EDW)</u>	<u>City of Cottonwood WWTP outfall 002 at 34°43'57"/ 112°02'46" to confluence with Blowout Creek</u>
VR	<u>Del Rio Dam Lake</u>	<u>34°48'55"/112°28'03"</u>
VR	<u>Dry Beaver Creek</u>	<u>Headwaters to confluence with Beaver Creek</u>
VR	<u>Dry Creek (EDW)</u>	<u>Sedona Ventures WWTP outfall at 34°50'02"/ 111°52'17" to 34°48'12"/111°52'48"</u>
VR	<u>Dude Creek</u>	<u>Headwaters to confluence with the East Verde River</u>
VR	<u>East Verde River</u>	<u>Headwaters to confluence with Ellison Creek</u>
VR	<u>East Verde River</u>	<u>Below confluence with Ellison Creek to confluence with the Verde River</u>
VR	<u>Ellison Creek</u>	<u>Headwaters to confluence with the East Verde River</u>
VR	<u>Fossil Creek (OAW)</u>	<u>Headwaters to confluence with the Verde River</u>
VR	<u>Fossil Springs (OAW)</u>	<u>34°25'24"/111°34'27"</u>
VR	<u>Foxboro Lake</u>	<u>34°53'42"/111°39'55"</u>
VR	<u>Fry Lake</u>	<u>35°03'45"/111°48'04"</u>
VR	<u>Gap Creek</u>	<u>Headwaters to confluence with Government Spring</u>
VR	<u>Gap Creek</u>	<u>Below Government Spring to confluence with the Verde River</u>
VR	<u>Garrett Tank</u>	<u>35°18'57"/112°42'20"</u>
VR	<u>Goldwater Lake, Lower</u>	<u>34°29'56"/112°27'17"</u>
VR	<u>Goldwater Lake, Upper</u>	<u>34°29'52"/112°26'59"</u>
VR	<u>Granite Basin Lake</u>	<u>34°37'01"/112°32'58"</u>
VR	<u>Granite Creek</u>	<u>Headwaters to Watson Lake</u>
VR	<u>Granite Creek</u>	<u>Below Watson Lake to confluence with the Verde River</u>
VR	<u>Green Valley Lake (EDW)</u>	<u>34°13'54"/111°20'45"</u>
VR	<u>Heifer Tank</u>	<u>35°20'27"/112°32'59"</u>
VR	<u>Hells Canyon Tank</u>	<u>35°04'59"/112°24'07"</u>
VR	<u>Homestead Tank</u>	<u>35°21'24"/112°41'36"</u>
VR	<u>Horse Park Tank</u>	<u>34°58'15"/111°36'32"</u>
VR	<u>Horseshoe Reservoir</u>	<u>34°00'25"/111°43'36"</u>
VR	<u>Houston Creek</u>	<u>Headwaters to confluence with the Verde River</u>
VR	<u>Huffer Tank</u>	<u>34°27'46"/111°23'11"</u>
VR	<u>J.D. Dam Lake</u>	<u>35°04'02"/112°01'48"</u>
VR	<u>Jacks Canyon</u>	<u>Headwaters to Big Park WWTP outfall at 34°45'46"/ 111°45'51"</u>
VR	<u>Jacks Canyon (EDW)</u>	<u>Below Big Park WWTP outfall to confluence with Dry Beaver Creek</u>
VR	<u>Lime Creek</u>	<u>Headwaters to Horseshoe Reservoir</u>
VR	<u>Masonry Number 2 Reservoir</u>	<u>35°13'32"/112°24'10"</u>
VR	<u>McLellan Reservoir</u>	<u>35°13'09"/112°17'06"</u>

VR	<u>Meath Dam Tank</u>	<u>35°07'52"/112°27'35"</u>
VR	<u>Mullican Place Tank</u>	<u>34°44'16"/111°36'10"</u>
VR	<u>Oak Creek (OAW)</u>	<u>Headwaters to confluence with unnamed tributary at 34°59'15"/111°44'47"</u>
VR	<u>Oak Creek (OAW)</u>	<u>Below confluence with unnamed tributary to confluence with Verde River</u>
VR	<u>Oak Creek, West Fork (OAW)</u>	<u>Headwaters to confluence with Oak Creek</u>
VR	<u>Odell Lake</u>	<u>34°56'5"/111°37'53"</u>
VR	<u>Peck's Lake</u>	<u>34°46'51"/112°02'01"</u>
VR	<u>Perkins Tank</u>	<u>35°06'42"/112°04'12"</u>
VR	<u>Pine Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°21'51"/111°26'49"</u>
VR	<u>Pine Creek</u>	<u>Below confluence with unnamed tributary to confluence with East Verde River</u>
VR	<u>Red Creek</u>	<u>Headwaters to confluence with the Verde River</u>
VR	<u>Reservoir #1</u>	<u>35°13'5"/111°50'09"</u>
VR	<u>Reservoir #2</u>	<u>35°13'17"/111°50'39"</u>
VR	<u>Roundtree Canyon Creek</u>	<u>Headwaters to confluence with Tangle Creek</u>
VR	<u>Scholze Lake</u>	<u>35°11'53"/112°00'37"</u>
VR	<u>Spring Creek</u>	<u>Headwaters to confluence with unnamed tributary at 34°57'23"/111°57'21"</u>
VR	<u>Spring Creek</u>	<u>Below confluence with unnamed tributary to confluence with Oak Creek</u>
VR	<u>Steel Dam Lake</u>	<u>35°13'36"/112°24'54"</u>
VR	<u>Stehr Lake</u>	<u>34°22'01"/111°40'02"</u>
VR	<u>Sullivan Lake</u>	<u>34°51'42"/112°27'51"</u>
VR	<u>Sycamore Creek</u>	<u>Headwaters to confluence with unnamed tributary at 35°03'41"/111°57'31"</u>
VR	<u>Sycamore Creek</u>	<u>Below confluence with unnamed tributary to confluence with Verde River</u>
VR	<u>Sycamore Creek</u>	<u>Headwaters to confluence with Verde River at 33°37'55"/111°39'58"</u>
VR	<u>Sycamore Creek</u>	<u>Headwaters to confluence with Verde River at 34°04'42"/111°42'14"</u>
VR	<u>Tangle Creek</u>	<u>Headwaters to confluence with Verde River</u>
VR	<u>Trinity Tank</u>	<u>35°27'44"/112°48'01"</u>
VR	<u>Unnamed Wash</u>	<u>Flagstaff Meadows WWTP outfall at '35°13'59"/ 111°48'35" to Volunteer Wash</u>
VR	<u>Verde River</u>	<u>From headwaters at confluence of Chino Wash and Granite Creek to Bartlett Lake Dam</u>
VR	<u>Verde River</u>	<u>Below Bartlett Lake Dam to Salt River</u>
VR	<u>Walnut Creek</u>	<u>Headwaters to confluence with Big Chino Wash</u>
VR	<u>Watson Lake</u>	<u>34°34'58"/112°25'26"</u>
VR	<u>Webber Creek</u>	<u>Headwaters to confluence with the East Verde River</u>
VR	<u>West Clear Creek</u>	<u>Headwaters to confluence with Meadow Canyon</u>
VR	<u>West Clear Creek</u>	<u>Below confluence with Meadow Canyon to confluence with the Verde River</u>
VR	<u>Wet Beaver Creek</u>	<u>Headwaters to unnamed springs at 34°41'17"/ 111°34'34"</u>
VR	<u>Wet Beaver Creek</u>	<u>Below unnamed springs to confluence with Dry Beaver Creek</u>
VR	<u>Whitehorse Lake</u>	<u>35°06'59"/112°00'48"</u>
VR	<u>Williamson Valley Wash</u>	<u>Headwaters to confluence with Mint Wash</u>
VR	<u>Williamson Valley Wash</u>	<u>From confluence of Mint Wash to 10.5 km downstream</u>
VR	<u>Williamson Valley Wash</u>	<u>From 10.5 km downstream of Mint Wash confluence to confluence with Big Chino Wash</u>
VR	<u>Williscraft Tank</u>	<u>35°11'22"/112°35'40"</u>

VR	<u>Willow Creek</u>	<u>Above Willow Creek Reservoir</u>
VR	<u>Willow Creek</u>	<u>Below Willow Creek Reservoir to confluence with Granite Creek</u>
VR	<u>Willow Creek Reservoir</u>	<u>34°36'17"/112°26'19"</u>
VR	<u>Willow Valley Lake</u>	<u>34°41'08"/111°20'02"</u>
VR	<u>Banning Creek</u>	<u>Headwaters to Granite Creek @ 34°31'01.02"/112°28'37.63"</u>
VR	<u>Butte Creek</u>	<u>Headwaters to Miller Creek @ 34°32'49.03"/112°28'29.3"</u>
VR	<u>Government Canyon</u>	<u>Headwaters to Granite Creek @ 34°33'29.49"/112°26'53.18"</u>
VR	<u>Manzanita Creek</u>	<u>Headwaters to Granite Creek @ 34°31'31.19"/112°28'44.34"</u>
VR	<u>Miller Creek</u>	<u>Headwaters to Granite Creek @ 34°32'48.55"/112°28'12.96"</u>
VR	<u>North Fork Miller</u>	<u>Headwaters to Miller Creek</u>
VR	<u>North Granite Creek</u>	<u>Headwaters to Granite Creek @ 34°33'04.33"/112°27'50.45"</u>
VR	<u>Slaughterhouse Gulch</u>	<u>Headwaters to Yavapai Res. Boundary</u>
VR	<u>Unnamed Trib to Granite Creek (UGC)</u>	<u>Headwaters to Yavapai Prescott Reservation Boundary</u>
VR	<u>Unnamed Trib to UGC (UUG)</u>	<u>Headwaters to Unnamed Trib to Granite Creek (UGC)</u>
VR	<u>Alder Creek</u>	<u>Headwaters to Verde River @ 33&lt;U+00B0&gt;51'39.24"/111&lt;U+00B0&gt;36'15.1"</u>
VR	<u>City Creek</u>	<u>Headwaters to East Verde River @ 34&lt;U+00B0&gt;13'27.07"/111&lt;U+00B0&gt;27'58.63"</u>
VR	<u>Lee Canvon</u>	<u>Headwaters to J D Dam Wash</u>
VR	<u>Mail Creek</u>	<u>Headwaters to East Verde River @ 34&lt;U+00B0&gt;25'03.88"/111&lt;U+00B0&gt;15'49.6"</u>
VR	<u>Munds Creek</u>	<u>Casner Park Tank to Oak Creek @ 34&lt;U+00B0&gt;54'41.65"/111&lt;U+00B0&gt;43'36.5"</u>
VR	<u>Rarick Canyon</u>	<u>Headwaters to Wet Beaver Creek @ 34&lt;U+00B0&gt;38'54.94"/111&lt;U+00B0&gt;45'03.07"</u>
VR	<u>Secret Canyon</u>	<u>Unnamed Trib at 34 57 02.6 111 50 19.0 to Dry Creek</u>
VR	<u>Sterling Canyon</u>	<u>Headwaters to Oak Creek @ 35&lt;U+00B0&gt;01'27.31"/111&lt;U+00B0&gt;44'11.78"</u>
VR	<u>Sycamore Creek (SYE)</u>	<u>Headwaters to East Verde River @ 34&lt;U+00B0&gt;18'03.98"/111&lt;U+00B0&gt;21'31.18"</u>
VR	<u>Unnamed trib (UP1) to Pumphouse Wash</u>	<u>Griffiths Spring to Pumphouse Wash</u>
VR	<u>Unnamed trib (UPM) to Pumphouse Wash</u>	<u>Headwaters to Pumphouse Wash @ 35&lt;U+00B0&gt;01'28.96"/111&lt;U+00B0&gt;44'09.98"</u>
VR	<u>Unnamed trib to Big Spring Canyon</u>	<u>Headwaters to Big Spring Canyon</u>
VR	<u>Unnamed trib to Pumphouse Wash</u>	<u>Headwaters to Pumphouse Wash</u>
VR	<u>Unnamed trib to Pumphouse Wash</u>	<u>Headwaters to Unnamed trib (UP1) to Pumphouse Wash</u>
VR	<u>Unnamed trib to Pumphouse Wash</u>	<u>Headwaters to Pumphouse Wash</u>
VR	<u>Unnamed trib to Willimason Valley Wash</u>	<u>Headwaters to Williamson Valley Wash</u>

**R18-2-215. Best Management Practices for non-WOTUS Protected Surface Waters**

A. The BMPs described in this rule are intended to ensure that activities within the ordinary high-water mark of perennial or intermittent non-WOTUS protected surface waters, or within the bed and bank of other surface waters that materially impact non-WOTUS protected surface waters, and do not violate applicable surface water quality standards in the non-WOTUS protected surface waters. For purposes of this section, the activities described in the prior sentence will be referred to as “regulated activities.” Depending on the regulated activities conducted, not all of the BMPS described below may be applicable to a particular project. The owner or operator is responsible to consider the BMPS outlined below and to implement those necessary to ensure that the regulated activities will not violate applicable surface water quality standards in the non-WOTUS protected surface water quality standards in the non-WOTUS protected surface water.

B. The BMPS described below are not applicable to any activities that are addressed under an individual or general AZPDES permit that are otherwise regulated under A.R.S. Title 49.

C. Erosion and sedimentation control BMPs:

1. When flow is present in any non-WOTUS protected surface waters within a project area, flow shall not be altered except to prevent erosion or pollution of any non-WOTUS protected surface waters.
2. Any disturbance within the ordinary high-water mark of non-WOTUS protected surface waters or within the bed and banks of other waters, that is not intended to be permanently altered, shall be stabilized as soon as practicable to prevent erosion and sedimentation.
3. When flow in any non-WOTUS protected surface water is sufficient to erode, carry, or deposit material, regulated activities shall cease until:
  - a. The flow decreases below the point where sediment movement ceases; or
  - b. Control measures have been undertaken, i.e., equipment and material easily transported by flow are protected within non-erodible barriers or moved outside the flow area.
4. Silt laden or turbid water resulting from regulated activities should be managed in a manner to reduce sediment load prior to discharging.
5. No washing or dewatering of fill material should occur within the ordinary high-water mark of any perennial or intermittent non-WOTUS protected surface waters. Other than the replacement of native fill or material used to support vegetation rooting or growth, fill placed within the ordinary high-water mark of any perennial or intermittent non-WOTUS protected surface water must resist washout whether such resistance is derived via particle size limits, presence of a binder, vegetation, or other armoring.

D. Pollutant management BMPs:

1. If regulated activities are likely to violate applicable surface water quality standards in a perennial or intermittent non-WOTUS protected surface water, operations shall cease until the problem is resolved or until control measures have been implemented.
2. Construction material and/or fill (other than native fill or that necessary to support revegetation) placed within surface waters as a result of regulated activities shall not include pollutants in concentrations that will violate applicable surface water quality standards in a perennial or intermittent non-WOTUS protected surface water.

E. Construction phase BMPs:

1. Equipment staging and storage areas or fuel, oil, and other petroleum products storage and solid waste containment should not be located within the ordinary high-water mark of any perennial or intermittent non-WOTUS protected surface water.
2. Any equipment maintenance, washing, or fueling shall not be done within the ordinary high-water mark of any perennial or intermittent non-WOTUS protected surface waters with the following exception:
  - a. Equipment too large or unwieldy to be readily moved, such as large cranes, may be fueled and serviced in non-WOTUS protected surface waters (but outside of standing or flowing water) provided material specifically manufactured and sold as spill containment is in place during fueling/servicing.
3. All equipment shall be inspected for leaks, all leaks shall be repaired, and all repaired equipment shall be cleaned to remove any fuel or other fluid residue prior to use within the ordinary high-water mark of any perennial or intermittent non-WOTUS protected surface waters.
4. Washout of concrete handling equipment shall not take place within the ordinary high-water mark of any perennial or intermittent non-WOTUS protected surface waters.

F. Post-construction BMPs:

1. Upon completion of regulated activities, areas within the ordinary high-water mark of any perennial or intermittent non-WOTUS protected surface waters shall be promptly cleared of all forms, piling, construction residues, equipment, debris, or other obstructions.
2. If fully, partially, or occasionally submerged structures are constructed of cast-in-place concrete instead of precast concrete, steps will be taken using sheet piling or temporary dams to prevent contact between water (instream and runoff) and the concrete until it cures and until any curing agents have evaporated or are no longer a pollutant threat.
3. Any permanent water crossings within the ordinary high-water mark of any perennial or intermittent in a non-WOTUS protected surface water (other than fords) shall not be equipped with gutters, drains, scuppers,

or other conveyances that allow untreated runoff (due to events equal to or lesser in magnitude than the design event for the crossing structure) to directly enter a non-WOTUS protected surface water if such runoff can be directed to a local stormwater drainage, containment, and/or treatment system.

4. Debris shall be cleared as needed from culverts, ditches, dips, and other drainage structures within the ordinary high-water mark of any perennial or intermittent non-WOTUS protected surface water to prevent clogging or conditions that may lead to a washout.
5. Temporary structures constructed or imported materials shall be removed no later than upon completion of the regulated activities.
6. Temporary structures constructed of native materials, if they provide an obstacle to flow or can contribute to or cause erosion, or cause changes in sediment load, shall be removed no later than upon completion of the regulated activities.

G. Design consideration BMPs: may be included in a permit for a discharge to a non-WOTUS protected surface water:

1. All temporary structures constructed of imported materials and all permanent structures, including but not limited to, access roadways, culvert crossings, staging areas, material stockpiles, berms, dikes, and pads, shall be constructed so as to accommodate overtopping and resist washout by streamflow.
2. Any temporary crossing, other than fords on native material, shall be constructed in such a manner so as to provide armoring of the stream channel. Materials used to provide this armoring shall not include anything easily transportable by flow. Examples of acceptable materials include steel plates, untreated wooden planks, pre-cast concrete planks or blocks. Examples of unacceptable materials include clay, silt, sand, and gravel finer than cobble (roughly fist-sized). The armoring shall, via mass, anchoring systems, or a combination of the two, resist washout.

H. Notification.

1. The owner or operator of any regulated activities shall, five (5) days prior to initiation the regulated activities, submit a notice to ADEQ on a form that includes basic information including the general location, the nearest non-WOTUS protected surface water, general description of planned activities, and contact person.

I. Exclusions:

1. The BMPS and notification requirements in this section shall not apply to:
  - a. Activities that are already regulated under A.R.S. Title 49.
  - b. Discharges to a non-WOTUS protected surface water incidental to a recharge project.
  - c. Established or ongoing farming, ranching and silviculture activities such as plowing, seeding, cultivating, minor drainage or harvesting for the production of food, fiber or forest products or upland soil and water conservation practices.
  - d. Maintenance but no construction of drainage ditches.
  - e. Construction and maintenance of irrigation ditches.
  - f. Maintenance of structures as dams, dikes, and levees.

#### **R18-11-216. Variances**

A. Upon request, the Director may establish, by rule, a discharger-specific or water segment(s)-specific variance from a water quality standard if requirements pursuant to this Section are met.

B. A person who requests a variance must demonstrate all of the following information:

1. Identification of the specific pollutant and water quality standard for which a variance is sought.
2. Identification of the receiving surface water segment or segments to which the variance would apply.
3. A detailed discussion of the need for the variance, including the reasons why compliance with the water quality standard cannot be achieved over the term of the proposed variance, and any other useful information or analysis to evaluate attainability.
4. A detailed description of proposed interim discharge limitations and pollutant control activities that represent the highest level of treatment achievable by a point source discharger or dischargers during the term of the variance.
5. Documentation that the proposed term is only as long as necessary to achieve compliance with applicable water quality standards.
6. Documentation that is appropriate to the type of designated use to which the variance would apply as follows:

- a. For a water quality standard variance documentation must include a demonstration of at least one of the following factors that preclude attainment of the use during the term of the variance:
  - i. Naturally occurring pollutant concentrations prevent attainment of the use;
  - ii. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met;
  - iii. That human-caused conditions or sources of pollution prevent the attainment of the water quality standard for which the variance is sought and either (1) it is not possible to remedy the conditions or sources of pollution or (2) remedying the human-caused conditions would cause more environmental damage to correct than to leave in place;
  - iv. Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use;
  - v. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses;
  - vi. Actions necessary to facilitate lake, wetland, or stream restoration through dam removal or other significant reconfiguration activities preclude attainment of the designated use and criterion while the actions are being implemented.
- 7. For a waterbody segment(s)-specific variance, the following information is required before the Director may issue a variance, in addition to all other required documentation pursuant to this Section:
  - a. Identification and documentation of any cost-effective and reasonable best management practices for nonpoint source controls related to the pollutant(s) or water quality parameter(s) and water body or waterbody segment(s) specified in the variance that could be implemented to make progress towards attaining the underlying designated use and criterion; and
  - b. If any variance pursuant to subsection (B)(7)(a) previously applied to the water body or waterbody segment(s), documentation must also demonstrate whether and to what extent best management practices for nonpoint source controls were implemented to address the pollutant(s) or water quality parameter(s) subject to the water quality variance and the water quality progress achieved.
- 8. For a discharger-specific variance, the following information is required before the Director may issue a variance, in addition to all other required documentation pursuant to this Section:
  - a. Identification of the permittee subject to the variance;
- C. The Director shall consider the following factors when deciding whether to grant or deny a variance request:
  - 1. Bioaccumulation.
  - 2. The predicted exposure of biota and the likelihood that resident biota will be adversely affected.
  - 3. The known or predicted safe exposure levels for the pollutant for which the variance is requested, and
  - 4. The likelihood of adverse human health effects.
- D. The variance shall represent the highest attainable condition of the water body or water body segment applicable throughout the term of the variance.
- E. A variance shall not result in any lowering of the currently attained ambient water quality, unless the variance is necessary for restoration activities, consistent with subsection (B)(6)(a)(vi). The Director must specify the highest attainable condition of the water body or waterbody segment as a quantifiable expression of one of the following:
  - 1. The highest attainable interim criterion.
  - 2. The interim effluent condition that reflects the greatest pollutant reduction achievable.
- F. A variance shall not modify the underlying designated use and criterion. A variance is only a time limited exception to the underlying standard. For discharge-specific variances, other point source dischargers to the surface water that are not granted a variance shall still meet all applicable water quality standards.
- G. Point source discharges shall meet all other applicable water quality standards for which a variance is not granted
- H. The term of the water quality variance may only be as long as necessary to achieve the highest attainable condition and must be consistent with the supporting documentation in subsection (E).
- I. The Director shall periodically reevaluate whether each variance continues to represent the highest attainable condition. Comment on the variance shall be considered regarding whether the variance continues to represent the highest attainable condition during each rulemaking for this Article. If the Director determines that the requirements of the variance do not represent the highest attainable condition, then the Director shall modify or repeal the variance during the active rulemaking.
- J. If the variance is modified by rulemaking, the requirements of the variance shall represent the highest attainable condition at the time of initial adoption of the variance, or the highest attainable condition identified during the current reevaluation, whichever is more stringent.
- K. Upon expiration of a variance, point source dischargers shall comply with the water quality standard.

### **R18-2-217. Site Specific Standards**

- A.** The Director shall adopt a site-specific standard by rule.
- B.** The Director may adopt a site-specific standard based upon a request or upon the Director's initiative for any of the following reasons:
  - 1. Local physical, chemical, or hydrological conditions of a non-WOTUS protected surface water such as pH, hardness, fate and transport, or temperature alters the biological availability or toxicity of a pollutant;
  - 2. The sensitivity of resident aquatic organisms that occur in a non-WOTUS protected surface water to a pollutant differs from the sensitivity of the species used to derive the numeric water quality standards to protect aquatic life in R18-2-213;
  - 3. Resident aquatic organisms that occur in a non-WOTUS protected surface water represent a narrower mix of species than those in the dataset used by ADEO to derive numeric water quality standards to protect aquatic life in R18-2-213;
  - 4. The natural background concentration of a pollutant is greater than the numeric water quality standard to protect aquatic life prescribed in R18-2-213. "Natural background" means the concentration of a pollutant in a non-WOTUS protected surface water due only to non-anthropogenic sources; or
  - 5. Other factors or combination of factors that upon review by the Director warrant changing a numeric water quality standard for a non-WOTUS protected surface water.
- C.** Site-specific standard by request. To request that the Director adopt a site-specific standard, a person must conduct a study to support the development of a site-specific standard using a scientifically-defensible procedure.
  - 1. Before conducting the study, a person shall submit a study outline to the Director for approval that contains the following elements:
    - a. Identifies the pollutant;
    - b. Describes the reach's boundaries;
    - c. Describes the hydrologic regime of the waterbody;
    - d. Describes the scientifically-defensible procedure, which can include relevant aquatic life studies, ecological studies, laboratory tests, biological translators, fate and transport models, and risk analyses;
    - e. Describes and compares the taxonomic composition, distribution and density of the aquatic biota within the reach to a reference reach and describes the basis of any major taxonomic differences;
    - f. Describes the pollutant's effect on the affected species or appropriate surrogate species and on the other designated uses listed for the reach;
    - g. Demonstrates that all designated uses are protected; and
    - h. A person seeking to develop a site-specific standard based on natural background may use statistical or modeling approaches to determine natural background concentration. Modeling approaches include Better Assessment Science Integrating Source and Nonpoint Sources (Basins), Hydrologic Simulation Program-Fortran (HSPF), and Hydrologic Engineering Center (HEC) programs developed by the U.S. Army Corps of Engineers.